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The Massachusetts Medical Society

THE ANNUAL DINNER

Ballroom, Hotel Statler, Boston, Tuesday, June 9, 1931, 8.30 P.M.
President Robert B. Greenough, Toastmaster

THE dinner commemorating the One Hundred and Fiftieth Anniversary of the Massachusetts Medical Society was held in the Ballroom of the Hotel Statler, Boston, Massachusetts, on Tuesday evening, June 9, 1931.

Divine blessing was invoked by the Rt. Rev. Henry K. Sherrill, Bishop of the Diocese of Massachusetts.

At the conclusion of the banquet the gathering was called to order by the President of the Society, Dr. Robert B. Greenough, of Boston, who presided as Toastmaster.

TOASTMASTER ROBERT B. GREENOUGH

Fellows of the Massachusetts Medical Society, Governor Ely, President Lowell, and other guests; ladies and gentlemen:

It is our purpose tonight to celebrate the One Hundred and Fiftieth Anniversary of the founding of the Massachusetts Medical Society. In 1881, the One Hundredth Anniversary of this event was marked by a suitable and notable celebration; and the special committee of arrangements, under Dr. Lund, and the regular committee of arrangements, under Dr. Gallupe, have prepared a program for this occasion which I think you will agree is fairly comparable with that of fifty years ago.

I will venture first to call to your attention the fact that while in 1881 the morning of the first day of the meeting was spent in inspecting the operations at the Brighton Abattoir, the morning of yesterday was spent in the amphitheater and operating rooms of the Massachusetts General Hospital.

In 1881 President Eliot of Harvard University not only addressed the Fellows of the Society but invited them to luncheon. This year, since our members go up well above four thousand, we have felt it would be more appropriate to invite President Lowell to dine with us and address us here.

On the afternoon of the first day of the meeting in 1881 the Committee of Arrangements provided an excursion down the harbor on a steamboat from Rowes Wharf. This year, with the aid of the Weather Bureau, we have been able to bring the ocean to you.

Fifty years ago there was a reception in the Art Museum, and Dr. Samuel D. Gross, of Philadelphia, addressed the Society in his capacity as President of the American Surgical Association. Last night Dr. Alexander Primrose, of Toronto, the present President of the American Surgical Association, delivered the Shattuck Lecture at the Art Museum, which was followed by a reception for the members and guests of the Society.

In 1881, Mr. Harrison, of Liverpool, a distinguished English surgeon, gave an address. Tonight, Professor George Grey Turner, of Newcastle-upon-Tyne, an eminent surgeon who tomorrow will be awarded the Bigelow Medal of the Boston Surgical Society, will speak to us as a well-qualified representative of the medical profession of Great Britain.

Dr. Jacoby represented the New York State Society in 1881, and Dr. W. H. Ross, who has been for the past two years the President of the New York State Medical Society is with us and will speak to us this evening.

In 1881 Governor Long expressed the felicitations of the Commonwealth of Massachusetts to the Society, and, although for a time we feared it might not come to pass, I am glad to say that Governor Ely has completed or postponed his most pressing executive duties and has arrived and will speak to us this evening.

The Rev. Phillips Brooks, who was then Rector of Trinity Church and later Bishop, spoke in 1881. Tonight, the Rt. Rev. Henry K. Sherrill, formerly Rector of Trinity Church and now Bishop of the Diocese of Massachusetts, has invoked the Blessing for us.

Fifty years ago Dr. Samuel Abbott Green reviewed briefly the history of the Massachusetts Medical Society. We do not know how much time his discourse consumed but when printed it is said to have filled one hundred and thirty pages. On this occasion Dr. Alfred Worcester is kind enough to review for us the history of the Society, but we have allowed him only fifteen minutes.

At the One Hundredth Anniversary Dr. Oliver Wendell Holmes read a poem, which among other things disparaged somewhat the ethics of the legal profession. This time we have secured from the son of the then Dr. Oliver

Wendell Holmes—Mr. Justice Oliver Wendell Holmes, of the Supreme Court of the United States, who, if you remember, has just passed his ninetieth birthday, a letter which I would like to read to you:

"The combined burdens of age and still pressing duties make it impossible for me to do more than merely to express my inherited good will to your great Society, for which my father felt so much. My father's and my own generation have passed away, and probably among your present members there are few or none whom I should recognize, unless by names once familiar among my friends, but they represent the profession and I venture to send them my best wishes from a deeper source than our common occupation of trying in our several ways to correct the mistakes of nature or of man: the source of time honored friendships, some of which began more than eighty years ago."

I have, also, some communications from other medical organizations. First, from our sister State Society, New Jersey, which antedated us in origin but which fails to come up to the standards we have made in regard to continuous existence. A delegate was appointed from the New Jersey Medical Society to be present at this dinner and at the last moment was prevented from attendance. He writes:

"Please present to your Society, of which you are the President, my regrets and the very best wishes of the Medical Society of New Jersey on the completion of one hundred and fifty years of distinguished service, and the hope for continued growth and increased prestige.

"The New Haven County Medical Association, 1784, sends best wishes to the Massachusetts Medical Society on its One Hundred and Fiftieth Birthday."

And this from the House of Delegates of the American Medical Association:

"The House of Delegates in session in Philadelphia sends congratulations to the Massachusetts Medical Society on its One Hundred and Fiftieth Anniversary. It congratulates the Massachusetts Medical Society on its glorious achievements in the field of medicine. The illustrious name of your Society has been ever an inspiration to the medical men of the whole country. May your future be as illustrious as your past. Again we salute you . . ."

This is signed by the Secretary of the American Medical Association, Dr. Olin West.

Now, gentlemen, I know you will be glad to hear from His Excellency, the Governor of the Commonwealth of Massachusetts.

HIS EXCELLENCY, GOVERNOR JOSEPH B. ELY

Mr. President and members of the Massachusetts Medical Society, it will be for you to determine, if you are to measure the progress of your Society by a comparison of your ceremonies 50 years ago with the ceremonies of tonight, whether you feel that you have made any progress during the last 50 years. If the historical address required 130 typewritten pages in reciting the history of your organization during the first 100 years, I figure that you should have at least 170 pages this year instead of 15 minutes.

It would be a distinct honor to me to have the same privilege tonight that Governor Long had 50 years ago, but I fear tremendously the comparison. I think public occasions such as this have progressed considerably in the last 50 years. They have progressed, at least, not so much in the quality of the performance as in the frequency of the performances. I wish that I might get into communication with Governor Long and inquire from him how many public banquets he attended in the first five months of his administration. I think my record would surpass his in the number of performances.

I am inclined to believe, however, that what we make up in quantity we sometimes lack in quality. I can imagine that 50 years ago the Governor of the Commonwealth, invited to speak before this learned assemblage, would find himself prepared with quite an elaborate manuscript, at least one that he had been able to commit to memory; and I am sorry to confess to you that the only manuscript that I have here is one that Dr. Bigelow prepared for me which I have not had time to read. I know it is good. It must be. I have heard him speak on numerous occasions, and he always has something to say and says it in such a very interesting way that I think it is a bit of a hardship on you that his strenuous endeavors to persuade me to come here tonight may deprive you of the pleasure of listening to him and impose upon you the obligation of listening to me.

It should be a source of great pride to you that you are the oldest medical organization in the United States in point of continuous existence. You will pardon me if I say I think it is strange that the doctors of even such a wonderful Commonwealth as Massachusetts have been able to live together in such peace and unity, apparently, knowing some of your qualities as I do, and that you have been able to live together in continuous organization for 150 years. The lawyers have not been able to do so well as that.

You are members of a wonderful profession. Mr. Justice Holmes of the Supreme Court, the son of Dr. Holmes, is a very wonderful man. I had the pleasure of a visit from him this last week while he was returning on his way from Washington to his vacation home. His wonder-

ful personality impressed me so much—91 years young; and I think he alluded to our two professions in a very attractive way when he intimated that you as doctors and the members of the profession to which I belong as lawyers are engaged in a common effort to remedy the laws of nature and of man.

The dignity of your organization has been enhanced by your quite constant effort to improve the living conditions of the people of Massachusetts. I believe it was due to your efforts that there was established here, the very earliest in our country at least, that institution which is called the Board of Health, an institution which has performed a very unusual and wonderful service, and it is due to your efforts.

You have been the moving cause in many of the social reforms of our day and generation. I suppose you were the impetus more or less of the creation in this Commonwealth of a department which sorely tries the taxpayers at times, engaged in the care of the mentally unfit, the epileptic, the tuberculous, the latest effort in which field I believe is in part due to your sincere interest in the progress of mankind, namely, that the Commonwealth of Massachusetts recently established its cancer clinics and hospital.

I sometimes wonder whether you ought not to give up the practice of medicine as a profession and join what I might call a medical staff of the Commonwealth of Massachusetts and let the State run the business of remedying the ills, physical and mental, of the people of Massachusetts. I think the doctor [Dr. Bigelow] has it in the back of his mind that possibly some time it would be well if he established here what he calls, I believe, rheumatism hospitals. I do not know whether that is the correct designation. I do not like to disagree with him but I think, if we go into that subject, the State will need the united service of all the doctors in Massachusetts in order to make it a thorough success, and we might provide you with constant employment.

What I am trying to say is this: Yours is a profession which in its essence deals with the people. The reward of your effort is not monetary. The reward of your effort at its best is the prestige attained by your endeavors, your efforts in moving forward the science of your profession for the benefit of us all; and I am inclined to believe that you best meet that test in that hospital practice, private practice, research and study which you have followed for so many years better than that the State should take over too much or go too far in its encroachment upon the performance of your duties in private practice.

The doctor [Dr. Bigelow] knows how you feel about it, anyway. I am not saying anything to you that I have not said to him. I do not want to discourage him because he is a very wonderful public official, earnest, sincere, able, and competent in the extreme in what he is doing.

The Commonwealth is very much honored that you meet here tonight. I personally feel honored to be invited to attend this meeting and to say just a few words to you. Your wonderful profession, if you maintain for it the same ideals of citizenship, the same code of ethics, the same high principles of endeavor which have actuated your conduct in the past, can really be of great assistance to the State and to the Governor in your efforts in constantly prodding us and keeping before us the needs of the community; and I trust that Massachusetts may in the future, as it has in the past, be responsive to your aims and your desires, your traditions and your ambitions.

PRESIDENT GREENOUGH: Mr. Lowell surely needs no introduction to this Society.

DR. A. LAWRENCE LOWELL

Mr. President and members of the Massachusetts Medical Society, it may seem strange in these times, when books multiply so fast that our libraries can hardly house them, to desire another book written; but there is a book that I should like very much to see published—so far as I am aware it never has been published—and that is a book on "The Influence of Professions upon Civilization." For what I think of in a gathering like this is not your individual work, not even the progress of medical knowledge, but the influence of the profession as a whole on civilization as a whole.

In the ancient world there were no professions, practically, that is, no organized professions. We owe them partly to the Middle Ages, which tended to incorporate everything,—to make voluntary associations of people of the same craft,—and partly to the rapid growth of knowledge.

A couple of days ago I happened to be reading Pepys' account of the great plague in London, and anybody who reads it will realize what medicine has done for mankind.

But I am not thinking of that. I am thinking of the influence of the profession as a whole. Every profession has its code of ethics, incomprehensible to anyone outside. That is true because its code of ethics attempts to regulate the conduct of the profession as such, and considers not so much the exceptional case as the effect in raising the general standard of practice, in keeping away abuses to which individual members are tempted thus making it of great service to the community at large. Therefore it is a pleasure for one who knows nothing about medicine to speak to the Medical Society of Massachusetts as a profession, and as one of the great forces,—quite apart from the individual work of its members,—in promoting the whole standard of civilization throughout our community. I belong

to one profession, the law, and I know what the Bar Associations do in this way, and I know that the medical profession does the like.

Now medicine has greatly changed, and with it the direction in which such a society as this must throw its weight. The time has long gone by when a single physician almost without a laboratory, and by simple observation of local cases that came to him, could do what Jenner did. I happened a couple of years ago to be at Berkeley and was shown the little church where Jenner is buried. I was told that a Japanese had been there a few months before, and when he saw the stone in the floor alongside that chancel, he went down on his knees before it. I felt like doing the same thing. His was one of the great boons to humanity. But the time has passed when that could be done—when by simply talking to the milkmaids one could learn that those who had sores on their hands never caught the smallpox, and could from that observation develop a general system of vaccination. Nor could a dentist, full of philanthropy but without laboratory, discover today the use of anesthetics, as was done here in Boston.

The advance of medicine has gone so far that we cannot carry it farther without the use of very elaborate apparatus. We need hospitals where many cases are under observation. We need laboratories connected with those hospitals. We need medical schools which are doing investigation and giving out the results to the practitioners over the country. Medical knowledge has grown so fast that the profession has difficulty in keeping up with it, and medical schools have felt the need of courses to which physicians or surgeons can return and learn some of the recent discoveries and new methods which have come into use.

In medicine, knowledge is increasing faster than in almost any other profession in the world today, and the pace must be kept up. Therefore, I think the duty of the profession is somewhat different from what it was. The medical school, where research is conducted, cannot exist without the support of the profession, and the profession cannot maintain the highest point of development unless it keeps itself in contact with, and supports, the work that is being done in the medical schools.

What the future will have before us we do not know, whether enormous advances will be as rapid as in the last 50 years we cannot tell. Anesthetics, followed by antiseptics, as everyone knows, revolutionized surgery. Now we are revolutionizing medicine, first by knowledge of bacteria, particularly of the insect host, and now apparently for the future by the study of physiological chemistry. The future seems to lie largely with chemistry, with metabolism and its effects on the human system in health and in disease. What the next discovery may bring forth we do not know, but there are young people here present who will probably witness changes in the future as great as the changes in the last 50 years. And what interests an outsider, a man who knows nothing personally of these subjects, is what this great profession organized as it is today can do, how it can help in that progress and how it can pass on the advances in its own actual practice.

The last 150 years, the life of the Association, has seen the greatest advance in medicine in the history of the world from the Stone Age to the present day. Will the next 150 years bring as much in the future? That depends very largely upon the members of the profession. The thing that interests me is the way in which the field is to be prepared by the intelligence, by the activity, and by the corporate action of the whole medical profession, to lead us into a medical condition as much better as the present is than that of 150 years ago when this Association was formed.

PRESIDENT GREENOUGH: Tomorrow evening in this building the Boston Surgical Society will award the Henry Jacob Bigelow Medal to the next speaker. You are all cordially invited to be present. We have asked him to do us the honor of coming to this dinner and we hope he will say a word for the English surgeons. I will introduce Professor George Grey Turner of Newcastle-upon-Tyne, England.

MR. GEORGE GREY TURNER

Mr. President, President Lowell, ladies and gentlemen, I feel it is a very great privilege to be here tonight as a visitor on this occasion. I have been reminded by the speech of your President that at your anniversary dinner my fellow countryman, Mr. Reginald Harrison, then of Liverpool, represented the English profession. That interests me very much because Mr. Harrison immediately afterwards migrated to London, and became one of the great leaders in our country in the development of neurology, then a comparatively new branch of study, as a specialist. It is a great pleasure to me to be able to bring you a similar message of good will from the Old Country, to bring you greetings from the profession in my own center, one of the provincial towns of England, from my own university, the University of Devon, and also from my fellow members of the Council of the College of Surgeons of England.

The period which your Society has covered, as you have been reminded tonight, represents that period in the history of medicine during which our art and science has made greater progress than in any other time since the history of our profession has been recorded. It has been your privilege and the privilege of those who have gone before to take part in disseminating that knowledge among your members; and I was particularly pleased to hear from President Lowell that in Harvard they have instituted courses of

postgraduate study by which those who are engaged in practice away from the centers are enabled to come back and to refresh themselves with the knowledge of what has gone on during the strenuous times when they have been deprived of direct contact with what are looked upon as the centers of diffusion of knowledge.

One of the greatest functions of a medical society such as this appears to be is that you get in touch with each other and you are able to learn from each other in a more direct way than you can otherwise do of exactly what is going on in your own times, so that that knowledge can become part and parcel of your daily work. It is often said in my country—and recent events have taught me that what happens in my country is likely to happen in other English speaking countries—that there is no time to go to the medical society, or that there are too many medical societies, or that there are so many methods of diffusing the knowledge which you would learn at your medical societies that it is not necessary to attend. It has also been said and is frequently urged that it is too troublesome to turn out to attend meetings at the end of perhaps a long and arduous day.

But when I hear statements of that sort it makes me ashamed because I think of the time, of which President Lowell again reminds me, of the days of Edward Jenner, who practiced the whole of his life in the little country village of Berkeley and there made those great discoveries which have been of such enormous benefit to the world at large. Jenner was in the habit of traveling, as he could only do, on horseback a distance of 12 miles or more to the neighboring city, Gloucester, in order that he might attend the monthly meetings of the medical society there. In more recent times, in my younger days I remember so well some of the urban practitioners in my district who made a practice of walking in many miles to attend meetings of the societies and walking out again in the evening.

People are apt at times to complain of the slowness of the progress of knowledge in medicine. That is but natural, as I am well able to understand, but I think the risk we run today is that we expect things to move too quickly, and we expect to reach in certain problems a finality which is not justified.

The other day in New York I was shown some of the clocks of that truly wonderful city, second only to your own, and there was shown a clock that was necessarily the largest in the whole world, and I was told that whenever it recorded a minute it jolted a foot. Now I know people feel that things ought to jolt a great deal quicker than time, and that is one of the other reasons why we should meet together, and why perhaps the sober judgment of some of our colleagues should prevent us from being discontented with what we think is the progress of our art.

It is a duty of all members of our profession to support the medical societies—and I do not doubt, from this great gathering that I see before me this evening and the attendance at the meetings in which I was able to take part yesterday, that you in this State of Massachusetts cannot be accused of lack of support of your society; but it is often said that there is no time, and that brings me to mention a delightful old legend that is associated with the old shepherds in the southern part of England, who were often so busy attending their flocks that they had not the necessary leisure to attend church, but in order that at the last trump they might be forgiven for their remissness it was the practice to bury with them a wisp of wool in the right hand, so that when the time came that they were to appear, the mark of their craft was always with them and they would be excused any delinquencies.

It may be that perhaps we may be discovered with the stethoscope and with the scalpel; but even so I do not think that will excuse us if we neglected our opportunities for keeping up with the advances and progress in our profession.

It has been a very great pleasure to come here this evening. I shall take back what I am sure you would wish me to take back, an account of this wonderful gathering and the activities of your Society. I am quite sure that that message which I will give will be an encouragement to your colleagues in Old England over the water.

I thank you.

PRESIDENT GREENOUGH: Dr. Alexander Primrose, Dean of the Medical Department at Toronto University and Professor of Clinical Surgery, the President of the American Surgical Association.

DR. ALEXANDER PRIMROSE

Mr. President, President Lowell, and Fellows of the Massachusetts Medical Society, I can say that your President has taken me entirely unawares. I did not know that he proposed to call upon me to speak to you tonight. I, however, as a Canadian, have great pleasure in taking advantage of the opportunity to convey the greetings of my Canadian colleagues, to congratulate this Society on having attained its 150th anniversary, and to wish you Godspeed on their behalf.

As a Canadian of Scotch descent I might perhaps illustrate my feelings on rising by telling you that a Scotchman is not always taken unawares, because I recall an instance of a Scotchman walking down Piccadilly at the evening hour in London, a stranger in the city, in his tweed suit. He entered a fashionable restaurant, and sat down at the table to order his evening meal. The waiter came to him, gorgeously attired with gold braid and so on, and looking down upon the little man he said to him,

"What do you want?" He looked up and said, "What have you got?" Well, the waiter, thinking to pull his leg a bit, said, "We have sheep's head, calves' brains and pig's feet!" The Scotchman interrupted him and said, "I was no speerin' about your disabilities." So you realize that a Scotchman was not taken by surprise on that occasion as the waiter had anticipated.

However, tonight I have nothing special to say because most of you, I fancy, heard me quite long enough last night, when I had the honor of delivering the Shattuck Lecture. I wish to say, though, that I appear also before you in one other capacity—that temporarily, at all events, I think I can claim American citizenship because my colleagues in Philadelphia last year were good enough to elect me President of the American Surgical Association. Therefore, on their behalf, on behalf of the American Surgical Association, I wish also to extend to this gathering the greetings of that body. I know that you are to hear very interesting addresses tonight, and therefore I will simply resume my seat after conveying to you in these words the greetings of my fellow Canadians and of the American Surgical Association.

PRESIDENT GREENOUGH: There is one authority in this country on matters of medical economics and the public relations of the medical profession, and he will speak to you on these subjects this evening. Dr. William H. Ross, of Brentwood, New York, has been for the past two years the President of the New York State Medical Society, and especially during these past two years he has given freely of his energy and his ability to the solution of some of these very vexing problems. I am glad to introduce him as the next speaker.

THE INFLUENCE OF SOCIAL CHANGE ON THE PROFESSION OF MEDICINE*

BY WILLIAM H. ROSS, M.D.

Mr. President, Ladies, and Gentlemen:

MEDICINE is the oldest profession in history. It is older than the civil law. Excepting the church, it is the only altruistic profession. Medicine has always determined its own gratuities and contributions to human welfare. It is the only profession intimately associated with the primary instincts of mankind. For ages it has been the only hope of postponing the fear of pain and death. It is, therefore, closely interwoven with the social relations of mankind and inseparably related to the real needs of people. Medicine is, therefore, a social function.

The time span of social change has usually been longer than the period of one human life and during these intervals the profession of medicine developed its traditions. Nowadays, something or other is taken into the everyday life of people about every ten years which changes the current of human relationships—the automobile, the radio, the influence of the World War, the present interrelationship of all the countries of the world, the increasing density of population in cities, the economic depression, and unemployment.

The World War changed many consuming countries into producing countries and has led to world-wide overproduction which may well continue. The present unemployment throughout the world may more or less continue. Hospitals and clinics with sufficient endowment may undertake the care of people who have not money to pay for modern treatment, or public opinion may devise an objectionable method of distributing the costs of the hazards of illness. Economic conditions may never again become as they were. Physicians cannot compete with basic economic disturbances any more than industry. Let me repeat that medicine is a social function intimately concerned with the general social condition of people. Whatever affects people economically will affect medicine economically.

Other factors enter into the situation. The public character of medicine and the general knowledge of what can be done to prevent disease has directed public expectation to the medical profession as the only competent body to develop organization for the administration of the known medical needs today. The profession of medicine is still influenced by the period when a physician was paid by gratuities. The general expectation still exists that under certain circumstances the doctor should give his services.

The world is full of examples of medicine's contribution to the social welfare of mankind. I am not sure that the profession of medicine would like to have this reputation disturbed.

Just as the science of medicine and its application to human ills advance and certain diseases come under control, in the same proportion a physician's work decreases unless he shifts his activity enough to make earlier diagnoses and earlier treatment a part of his work.

There are complexities of society today and enough general economic disturbance to slowly stimulate the state to take on its parental function for the care of the health of its citizens. Since health is an asset to the state and sickness a liability, it is the responsibility of government to take a hand in the solution of health problems not now being taken care of. If the medical profession will only recognize that it is

*Address by the Retiring President of the Medical Society of the State of New York at the Annual Dinner of the Massachusetts Medical Society, at Boston, June 9, 1931.

by the great increase in hospitals and their public use and the phenomenal advance in the science of medicine, all within two decades; the marvelous educational influence of radio within the burden of the state to supply certain equipment and certain facilities for the care of its citizens and that it is the responsibility of the physician to supply the technical service, a partnership will be established which is both in the interest of the public and in the interest of the profession.

If the multitude of indications really show that this nation has reached the peak of its growth and from now on will more or less approach the social conditions of other countries which caused the governments of those countries to take a hand in the solution of relatively similar problems, then the profession of medicine and the leadership of public thought must consider the situation. Medicine cannot be allowed to abandon its historical, social, altruistic, personal relationship to individuals. Some method of rational control of the situation confronting medicine must be thought out.

The importance of health as a basic foundation for every effort in the world—war, industry, stability of government, civilization itself—is accepted by the thoughtful public and illustrated by the interest of governments everywhere in health matters. The national study on the costs of medical care and medical service and the study of child health are but examples.

The total health bill of this country is three per cent. of the national income. The physicians of this country receive $750,000,000 per year. There are 120,000 working physicians in this country and about 120,000,000 people, making 1,000 for each physician. They receive $6,250 on the average per year. This is the gross income and out of it they must provide their equipment for practice and transportation. The cost of a medical education today plus the value of the time to acquire it would, if invested at six per cent. until the individual is fifty years old, allow him to retire and maintain himself and family for the rest of life without working. The average amount paid for medical service to physicians in this country is $6.25 per capita per year. Hospitals receive about the same amount per capita. The physician is not overpaid. The hospital is not overpaid. The thinking public is grasping these facts. The general public will sooner or later acquire this information, also. The public, however, knows just about as much concerning this as our own men appear to know and whenever we say that we ought to educate the public as to the problems of medicine, we should add, and our own members, also.

The medical profession, accepting certain fixed basic conditions as a guide to its relationships, has gone on quite well until social conditions began to change and complexities of society began to increase. The change from the time when social conditions remained about the same for more than one lifetime to the present when they change about every ten years, makes necessary a constant readjustment of medical relationships. The assumption that there is nothing more in medicine than to fill its scientific storehouses and that each generation of physicians will live amid essentially similar basic conditions as the generation before and the one to come is for the first time in our history false.

The public wonders why there is any hesitancy in the adjustment of medical relationships when social changes and present-day complexities of society are so evident. A physician is naturally conservative. There is always an influence from the multiplicity of uncertain factors that a physician daily deals with. A physician is individualistic. Most of his life is spent in solving the problems of individuals. Naturally, a physician applies the same habit of thought to problems of relationships that he applies in giving directions to a patient. Subconsciously he thinks of the problems of medicine in the same way that he is accustomed to think of the problems of practice. He is not in the habit of having anyone tell him what he should do. He is trained to accept personal responsibility. The power of tradition, developed at a time when social changes were farther apart than nowadays, naturally influences his decisions. Any solution of any problem in medical service involving a change from the customary way of doing things may arouse opposition. There is always possible some degree of emotional resistance to a substitution of any new method for an existing method until time enough has elapsed to ascertain its truth. Then there is, as with other scientific bodies, the sociological and psychological factor of vested interest, influencing the acceptance or rejection of an innovation. The minor part of vested interest is economic and the major part is fear of the disturbance of reputation, prestige, or authority. In all respects, the medical profession acts as a scientific body and other health groups as a popular body.

The New York State Medical Society has made progress this year along the lines of adjusting medical service to the needs of the people. The past year has seen the general acceptance of the principle that medicine's activities must extend beyond the individual case of sickness or disability. The State Society, through its Public Relations Committee, has come into close conference with the State Government—Departments of Education, Labor, Health, Public Welfare, and others. The same principle has been applied by County Medical Societies in dealing with county officials. There has been a general acceptance by physicians, governmental officials, and by the people. It has been an effort to inspire the medical profession to join in the task of making all

forms of medical service available to all classes of people, under the technical leadership of medicine.

The change in social conditions is illustrated one decade; the influence of the automobile on our national life, and the beginning influence of ultraviolet light which the scientists tell us is due for a more spectacular sweep into popular use than was expected of radio.

While I do not know that it is possible to work out the future problems of medical relationships except approximately, there is today in medicine an agency—Public Relations—that was used in the civic affairs of Greece four thousand years ago. It has been used in industry, in all civic effort, and in the affairs of government. Considered as a medical agency it undertakes to bring opposing interests into conference, to find the common ground, to compromise differences, and to coördinate similar objectives into a coöperative undertaking. It limits waste, increases accomplishment, and defines leadership. We can, at least, find approximate solutions for problems if we adopt enough of the science of foresight.

Organized medicine assumes responsibility today unthought of a generation ago—in medical education, legislation—and public service. As a profession, medicine is doing more to meet and overcome public criticism today than any other profession. The welfare of future generations of physicians depends upon the correct handling of the problems of today.

Just as there is a world economic disturbance today about which very much is coming to be known, so there is a world disturbance in the relationships of medicine about which much is coming to be known. It involves the economics of medicine as well as the services of medicine.

In this little address I have touched upon thoughts, ideals, and facts with which I have more or less closely lived for a year, while serving as President of the New York State Medical Society. The principles which I have endeavored to present should not be overlooked until the truth is found.

PRESIDENT GREENOUGH: Gentlemen, I do not need to introduce the next speaker to you. You know him well! But I would like to introduce the Fellows of this Society to him, that he may know the great affection and respect with which they one and all regard him—Dr. Alfred Worcester.

THE DISAPPEARANCE OF THE GENERAL PRACTITIONER*

ALFRED WORCESTER, M.D.

I have been asked to give a comprehensive account of medical progress during the past half century. But do not be alarmed; for I have been allowed only fifteen minutes, and moreover I shall speak only of the disappearance of the general practitioner. I choose this subject because it is one I know most about and also because it seems to me the most distinctive characteristic of this era in our profession. However inconspicuous any species of the animal kingdom may have been when prevalent, on the verge of disappearance the last survivors of that species are sure to attain final notoriety. Approaching extinction brings *dis*tinction. For example, the disappearing Heath hens of Martha's Vineyard have been attracting more and more attention until now, when only one old cock survives, visitors to the Island anxiously listen for his last quavering crowings.

My sympathy for that old cock has been aroused by the supposition that the disappearance of his species is in no small measure due to the introduction of automobiles, for I am persuaded that it is the motor car that has driven the general practitioner back into the wilds. I also have a sort of brotherly feeling for that lonely old cock because I too am getting used to notoriety as one of the last survivors of a disappearing species. That is why I am here on exhibition. Not that I am yet the most aged specimen of the general practitioners but because my seniors, too old to crow for themselves, depend upon me to crow for them.

Not long ago at a District meeting of this Society some of us old fellows had to listen to the parting knell of our day rung by one of Boston's leading surgeons who warned us that henceforth general practitioners must surrender all surgery to the surgical specialists. I could not help remembering the condemnation of the Boston surgeons when at one of their meetings a general practitioner of that same District showed them some diseased appendices removed from patients who survived. For advocacy of immediate surgery in such cases some of his friends advised that he should be sent to the McLean Asylum. In view of the wealth surgeons since have gained from delving in the right iliac fossa, it does not seem as if they need have hammered him quite so hard. When he first stumbled upon a gangrenous appendix he was like the pioneer who by chance digs up a nugget of gold and little dreams of the riches that afterwards will be dug up in that region. Is it any wonder if he resents the claims of professional miners warning him from future explorations?

Is it not possible that our profession may continue to advance in the future as in the past by following the trail blazed by general practitioners who may not know enough *not* to operate in cases where without some desperate operation death is inevitable?

Only lately another of Boston's famous specialists told us that the total removal of a lung

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had never been successful. Some of us could have told him of a hard-working farmer whose gangrenous lung had been taken out some years earlier by a country doctor*. I might tell you too of another successful operation by a country doctor where the fibroma weighed 110 pounds and the patient after her recovery weighed only seventy†.

But enough of this crowing! For I want to turn your attention from the disappearing general practitioners to the needs of country families, living far from auto roads, where births and deaths and intermediate crises of course sometimes happen. And I want you to think also of the ordinary families of moderate means whom specialist fees would impoverish and medical charity would pauperize.

Hospitals and motor-ambulances however numerous will never meet the need of babies who want a birthplace of their own nor the need of those who prefer to die in their own beds. Moreover, in many crises there is larger chance of success from an immediate surgical operation however clumsy than from the most skilful surgery even a few hours later.

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But far be it from me to belittle what we owe to the specialists for the marvelous advance of our profession. To them I owe many debts—among them my life.

But I believe the specialists are now going too far in staking out their claims to all the various parts of the human body and to all the diseases and accidents that may happen to it. They do not seem to recognize the usefulness of the family physician for any further service than as a guidepost to the specialists' offices.

And unless the tide turns, when the last of the general practitioners shall have been gathered to his fathers, if upon his monument the cause of his disappearance is chiselled it will have to be this:

In the glorious advance of the medical profession this old family doctor and those like him were overwhelmed by the avalanche of specialists.

PRESIDENT GREENOUGH: Fellows of the Massachusetts Medical Society, the One Hundred and Fiftieth Anniversary Dinner is concluded. Good night!

(Adjourned.)

AMOEBIC DYSENTERY IN MASSACHUSETTS

Report of Five Cases

BY PERCY A. BROOKE, M.D.,† AND RAYMOND H. GOODALE, M.D.†

THE fact that amoebiasis is more common in temperate zones than was previously thought has been mentioned at different times by authors who are familiar with the organism which causes this infection. In spite of this, however, the number of cases of amoebic dysentery reported in Massachusetts are very few. In fact the differentiation of bacillary and amoebic types of dysentery is seldom made, and when made, is open to considerable doubt inasmuch as the cases are usually reported on clinical evidence alone.

The occurrence of dysentery is relatively common, the disease being mentioned by the most ancient writers in medicine. It was not until 1859, however, that any attempt was made at classification of the various forms of the disease. In that year Lambl[1] discovered amoebae in the intestine of a child who died of dysentery. Sixteen years later Losch[2] first noticed the presence of amoebae in the stools of an infected person. It was not known, however, at that time, that the organisms found were pathogenic and, therefore, responsible for the condition produced in these patients. In 1903 Schaudinn[3] was really the first to realize that two species existed, one pathogenic for man, the other non-pathogenic. Work done since then has shown that there are at least five different species of intestinal amoebae belonging to four distinct genera. Only one of these however, is pathogenic, namely, entamoeba histolytica.

Amoebic dysentery is regarded by the vast majority of medical men to be a distinctly tropical disease. That it is endemic in tropical and sub-tropical regions is true, but that it occurs in hot climates alone has been disproved by the increasing number of cases discovered in the temperate zone, especially since the World War. It seems that the disease is found more now in the temperate zone than formerly for the reason that foreign travel has become more common, and people who have resided in the tropics or where the disease is endemic very often become carriers and in this way spread the disease.

There is a mass of evidence directing attention to the fact that many cases occur in those who have never been in the tropics but have lived in regions very remote from them. Amoebic dysentery has occurred in England, France and other portions of northern Europe as well as in northern United States in people who have not been outside of their respective countries.

The purpose of this article is to report four cases of amoebic dysentery occurring in Worcester, Massachusetts, and another which came to Worcester from another part of the state for treatment of a condition which was thought to be malignant. So far as is known, one case was never out of New England, and one was never out of the temperate zone. Of the other three, one was in Bermuda twenty years before the onset of symptoms, one was in the West Indies ten years before the true nature of the illness was discovered, the third was in Italy about six months before the diagnosis was made.

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Case No. 1. (R. J. S.) A white man 53 years of age appeared at the Worcester City Hospital for relief of a bloody diarrhea which had bothered him for about two years. He had never been outside of New England. The diarrhea had been of a type alternating with constipation. He complained also of loss of appetite, considerable gas, and of occasional vomiting after eating. Abdominal pain had been absent except at times when his bowels were moving. At entrance he gave evidence of considerable loss of weight, the skin being thin, loose and inelastic, and the subcutaneous tissues being fairly well depleted. The chest was barrel shaped, the lungs hyperresonant, with slight dullness to percussion at right apex. No râles were heard. The abdomen was somewhat distended. There was clubbing of the fingers. The man was very nervous and hard to manage.

The laboratory findings were as follows: R. B. C. 4,000,000. W. B. C. 9,800. Urine negative. Widal, Wassermann, Kahn and Hinton reactions were negtive. X-ray report of chest: Left upper lobe shows few fibrous strands proceeding from the hilum, but not reaching apex or periphery; there is no infiltration and the process is not characteristic of tuberculosis. Stools repeatedly examined were negative for intestinal parasites.

Proctoscopic examination revealed many points of bleeding high in the rectum and in the immediate vicinity of the pelvirectal valve. After wiping this part of the gut, several small raised areas about the size of a millet seed were seen. Blood was oozing from the centers of these lesions. There were also two areas of ulceration detected above the sigmoid-rectal junction. Some of the bloody material which was oozing from the raised areas was removed by means of a swab. This material was full of amoebae, both vegetative and encysted forms characteristic of entamoeba histolytica.

Treatment: Three courses of emetine hydrochloride were given with a rest period of three days between each course. A course consisted of one grain of the drug into the deltoid muscle daily for seven days. This form of therapy had no effect on the diarrhea whatsoever. (Stools were still negative for parasites.) The second proctoscopic examination disclosed some enlargement in the ulcerated areas. Material taken from the ulcers remained positive for the amoebae. Two courses of emetine-iodo-bismuth were then tried, a course being the oral administration of three grains of the medicine three times a day for six days with rest periods of three days between courses. In spite of the therapy, the patient continued to have about eight stools in twenty-four hours, most of the motions containing blood and mucus. On the third proctoscopic examination many amoebae were found in the material obtained from the ulcers. In addition to the therapy described above large doses of bismuth subcarbonate were tried —one dram every four hours for seven days. It was

thought that under this form of therapy the movements were less bloody and contained less mucus. The number of stools, however, remained the same.

As the patient was losing weight rather rapidly, the possibility of other pathology higher in the gut was considered. Examination of the gastro-intestinal tract was made by means of a gastro-intestinal series and a barium enema, the report of which was negative for malignancy.

After two months' confinement in the hospital the patient grew tired of being treated and went home. After his discharge he was persuaded to appear at the Out-patient Department once every fortnight. The first treatment prescribed there was Yatren (iodo-oxy-quinoline-sulphate) half a gram three times a day for three courses, each course consisting of a ten day treatment with three days rest between courses. At the end of the third course a fourth proctoscopic examination was made. Bleeding was still going on unabated. The material removed from the ulcerated areas was full of amoebae. After a period of seven weeks at home the patient was readmitted to the hospital. He was markedly emaciated; the skin was very inelastic and dry; there was no subcutaneous fat; the eyeballs were sunken, tongue very dry and thickly coated; the chest remained as in the preceding examination except for dullness at both apices. The abdomen was distended, and the superficial veins were plainly visible. Ever since discharge from the hospital he had been having seven to eight stools a day, the majority of which contained blood and mucus. His appetite on return was extremely poor. He was very nervous, disagreeable and unable to sleep at night. The red blood count was 3,000,000; the white blood count 11,000. The urine was negative.

Stovarsol, one fourth gram three times a day for six days, was prescribed. This treatment produced no evident results. At the end of seven weeks of this second hospital confinement, he suddenly became constipated, abdominal distention became more marked, and he began to experience cramp-like pains. An enema was given which was returned clear. The next day he was taken with sharp, knife-like pains in the epigastrium. His abdomen was hard and tender all over. He was seen by Dr. E. L. Hunt who agreed that he should be explored in spite of his general condition.

The operation was started immediately under novocaine and later gas oxygen. Dr. Hunt's report was as follows: Right lower rectus incision. Found cloudy fluid free in peritoneal cavity, coils of small gut moderately distended, cecum distended and could not be delivered. Presence of fluid suggested perforative lesion, and so another incision was made on opposite side of abdomen. Sigmoid pulled into view and found to be contracted, thickened, edematous and rigid so that it felt more like a piece of rubber hose than an intestine. This portion of the gut had fibrinous clots adherent which increased toward its lower end. Fluid in the pelvis was more purulent among the coils of the small intestine. No perforation could be found in the large gut, and so cigarette drains were introduced and wound closed with mass sutures except for drainage exit. Ileostomy was done.

The patient was returned to the ward in poor condition. He died two days later.

AUTOPSY

The autopsy was performed four hours postmortem. The body was that of a well developed but emaciated male. There was a right lower quadrant incision 12 cms. long with a loop of ileum protruding therefrom. A piece of rubber tubing was protruding from a hole in the ileum. There was a left lower quadrant incision 7 cms. long containing two cigarette drains at the lower end.

Pericardial cavity: Negative.

Heart: Weight 190 grams. Valves and musculature were negative. Coronary vessels showed slight sclerosis.

Pleural cavities: Negative.

Lungs: Weight together 910 grams. Left lung showed an area of active tuberculosis about 5 cms. in diameter in the center of the upper lobe. The right lung showed an area of active tuberculosis 2 cms. in diameter in the center of the upper lobe. Otherwise both lungs were negative.

Spleen: Weight 50 grams. Surface had a blotchy appearance. Pulp scraped away readily.

Gastro-intestinal tract: Stomach contained about two ounces of greenish fluid, and the mucosa was covered with numerous petechial hemorrhages. The jejunum had two ulcers about 0.5 cm. in diameter. Both of them had perforated and had caused a localized peritonitis. On closer scrutiny a few other smaller superficial ulcers were found. An ileostomy was found 12 cms. from the ileocecal valve.

The lower end of the ileum and the cecum were dilated. The distal end of the colon and the sigmoid had a thickened wall and were covered with fibrin. The lumen of the sigmoid was almost entirely obliterated, resulting in a partial obstruction at this point. On opening the large intestine the haustrations of the mucosa were markedly decreased in size and in many instances were absent; the wall was found covered with ulcers 2 cms. in diameter and smaller. These ulcers were irregular in outline and were definitely undermined. Some were filled with a mucoid material. The bases of the ulcers in many instances consisted of the circular muscle layer of the wall. The edges of the ulcers were raised above the level of the normal mucosa. No tubercles were seen in either the large or small intestine.

Liver: Weight 3000 grams, color pale. On section the parenchyma had a nutmeg appearance. No abscesses were found.

The remaining organs were essentially negative.

Microscopic Description: Sections were taken from various ulcers of the large intestine and from several ulcers of the small intestine including the two which had perforated. They were fixed in 10 per cent. formaldehyde, sectioned and stained with hematoxylin and eosin and with iron hematoxylin to demonstrate amoebae. The sections showed the mucosa intact up to the edges of the ulcers where it ended suddenly. The mucosa was undermined, and the submucosa at the edge of the ulcer was necrotic. Occasionally there was a plug of débris in the ulcer. The reaction in the wall was the same around all ulcers, namely, a round cell reaction made up of lymphocytes, plasma cells and large mononuclear cells. These cells were most numerous in the submucosa of the ulcer edges and in the circular muscle constituting the bases of the ulcers. They were fewer in number farther away from the ulcer. There was no reaction in the mucosa. Immediately around the ulcers of the large intestine a few vegetative amoebae were seen in the submucosa and circular muscle. No amoebae were seen in the ulcers of the jejunum. No evidence of tuberculosis was seen in any of the ulcers.

Case No. 2 (L. U. N.) A man 32 years of age, white, developed at about 11 A. M. on August 21, 1930, what he described as "indigestion". Five hours later pain developed in the midline of the epigastrium, cramp-like and spasmodic in character. A physician was called who told him that he was suffering from indigestion and gave him a few pills. Soon after taking this medicine, he began to have recurring attacks of vomiting. Twelve hours after the appearance of the initial symptoms he had severe chill. He was given some "gin" which he promptly vomited. Immediately afterward he felt relieved and went to sleep for about six hours, after which he was

awakened with the same kind of pain as before only more severe in character. He suffered considerably all day (August 22) but did not call a physician during the day as he expected an abatement of his pain. At 6 P. M. the pain became continuous and much more severe. He called a surgeon (Dr. C. Byrne) who described his abdomen as being generally tender and board-like. He was sent immediately to the hospital where he was operated upon that night.

Dr. Byrne's report: Right rectus incision made 2.5 inches long. The peritoneum was opened which allowed the escape of pus, yellowish-green in color. The appendix was markedly swollen, and gangrenous at outer third and middle, and ruptured in both places.

Immediately after the operation his abdomen became distended to such an extent that breathing became difficult. The distention continued to the eighth postoperative day, when he began to have abdominal cramps followed by bloody diarrhea, the number of movements mounting to fifteen in 24 hours. The distention disappeared with the continuation of the diarrhea. Stools were examined for intestinal parasites, and entamoeba histolytica was discovered.

Pathologist's report of appendix: Appendix measured 7 x 1 cm., was covered with fibrin and had pus and débris in the lumen. Microscopically encysted amoebae were found in the pus in the lumen and in the fibrin on the surface. Polymorphonuclear cells were found in all layers of the wall. Pus taken from the draining appendix wound showed many encysted and vegetated forms of entamoeba histolytica.

In view of the findings in the stool and appendix the following additional history was obtained. The patient stated that he had always enjoyed good health until October of 1919. In the spring and summer of that year, while in the U. S. Navy he was stationed in the West Indies. During his stay there he ate his regular meals on board ship, but would often go ashore when off duty. Fruit was plentiful and he ate bananas, oranges, sugar cane and cocoanuts. These foods were the only kinds he ate which were not cooked. He returned to civilian life in September of 1919, and was well for one month when he began to have gastric symptoms His complaint at that time was of distress after eating, nausea, abdominal distention, loss of appetite, generalized abdominal tenderness and irritability. He had four or five soft stools a day. He consulted his physician who placed him on a diet consisting of crackers and milk and gave him some pills. After a period of three weeks, he felt somewhat better. His appetite improved, stools were fewer, distention less, but the distress after eating remained. His improvement, however, was only temporary and in about two months the train of symptoms reappeared. These periods of relief and recurring symptoms alternated during a time that extended until the onset of the trouble that brought him to the hospital in 1930. An outstanding development was that about five years ago he noticed blood and mucus in the stools during one of the exacerbations and this finding was constant during each attack thereafter.

Treatment and progress: Emetine hydrochloride was given intramuscularly for nine days in half grain doses morning and night. The parasites disappeared from the stools after the second day of treatment, but the stools continued to be as frequent and to contain mucus and blood until the eleventh day when four stools were passed. Material from the wound, and pus from the abdomen contained encysted and vegetative forms of entamoeba histolytica. Emetine was applied to the wound and in a few days sloughing occurred. In spite of this the local applications were continued until no amoebae remained. After the amoebae disappeared, healing took place but the progress was slow. Healing was complete, however, before he was discharged from the hospital. After the nine day course of subcutaneous injections of emetine he was allowed a four day period of rest. No more emetine was given because the patient was tiring of the subcutaneous injections, therefore, three courses of Yatren were given. A course consisted of one-half gram three times a day for six days with a four day rest period between each course. Six days after the Yatren therapy was started, the stools decreased to one a day. He was discharged from the hospital on November 8, 1930, feeling well. His gastric symptoms had disappeared, stools were negative, the irritability had disappeared and he was gaining steadily in weight. His convalescence was retarded on account of the development of phlebitis in his right leg.

Monthly examinations of his stools are being made, and at present they are still negative for entamoeba histolytica.

Case No. 3. (M. H.) White female, 55 years of age, was taken ill with bloody diarrhea on October 7, 1931, after getting over an attack of migraine to which she had always been subject. The first attack of diarrhea was so severe that she had fifteen bowel movements a day for three days. On the third day of her illness a specimen of stool was sent to the laboratory and entamoeba histolytica was found. Therapy consisted of one grain of emetine hydrochloride subcutaneously for two courses, a course consisting of 1 grain daily for seven days with four day rest period between courses.

On the second day after therapy began, blood and amoebae disappeared from the stools and the patient had only three movements that day. On the third day the bowel movements were normal in number and character and no parasites were found. Biweekly check up reveals normal stools.

Past history reveals that the patient was in Bermuda twenty years previously. She has had sugar in the urine for 15 years and hypertension for twelve years.

It is regretted that more complete study could not be made in this case.

Case No. 4. (J. T.) 57 years old. Came to Dr. E. L. Hunt for treatment of a condition thought to be malignancy of the sigmoid. She complained of having gas, especially after eating, and of tenderness of the large bowel which condition had existed for about six months before she became acutely ill. She was examined by her physician in August 1930, and was told that she was in good health. About the first of September she began to experience pain in the right lower quadrant, the gas became more troublesome and her appetite poor. Two weeks later she developed severe diarrhea with from five to eight movements a day, the motions containing blood and mucus. The diarrhea was accompanied by severe cramps which were somewhat relieved after a bowel movement. At the end of the month she appeared before her physician again, and an x-ray examination led to a suspicion of malignancy. A surgical consultation followed and she was advised to be operated upon immediately. At this time she decided to go to Worcester to see Dr. E. L. Hunt, who advised her to enter the Worcester City Hospital for study. At the time of her entrance to the hospital she was having five stools daily, and there was blood and mucus in each stool. (She was anemic; r. b. c. 2,500,000, Hemoglobin 50%). The stools were examined for parasites. Entamoeba histolytica was found in both encysted and free forms. A barium enema was given and was reported as follows: Enema enters readily to and beyond the ileo-cecal valve. In the descending colon are shown two or three apparent constriction rings which relax fluoroscopically. There is no dilatation and no constant filling defect. The

haustration in general is deepened from the sigmoid to the lower portion of the ascending colon. Parts of the descending colon show nearly absent haustration at times. This picture is consistent with severe colitis. No definite evidence of malignancy can be made out.

She was given two courses of emetine hydrochloride, the courses being the same as in the previous cases. After the second injection the parasites disappeared from the stool, the number of stools became less, and the abdominal discomfort and pain disappeared. She remained at the hospital for ten days after treatment was begun. When she was discharged she was placed on Stovarsol .25 gram t. i. d. for seven days for three courses. Every two weeks she came to the hospital for a check up and her stools were found to be negative for blood and parasites, and she was gaining in weight. A check up of her condition three months after discharge reveals the following facts: R.B.C. 4,500,000; hemoglobin 75%. Stools are negative for blood, mucus and amoebae. A barium enema was given, and it was reported that there was no obstruction, no filling defect or other evidence of malignancy. Her condition at the present time remains unchanged.

CASE No. 5. (F. A. M.) White, 44 years of age, had been perfectly well except for hypertension up to the time when he was taken ill in October, 1917 while he was in France. His sickness was attended with symptoms of anorexia, gas, nausea, fever, abdominal cramps and diarrhea. He was given some pills and in a few days felt better. He remained well for about ten months when the same train of symptoms reappeared. When he returned to the United States in January, 1919, he was having alternating periods of constipation and diarrhea; the latter was always preceded by abdominal cramps. This condition continued with the addition of abdominal distention after meals which increased in proportion as time went on. On November 22, 1926, he developed a violent headache and abdominal pain immediately below the umbilicus slightly to the left side. The next day he passed a black tarry stool. He remained in bed for one week at the end of which time he felt well enough to resume work. For the next three years he pursued his occupation and had recurring attacks of constipation and diarrhea. On January 20, 1930, he awoke in the middle of the night with headache and abdominal pain, attended by vomiting and diarrhea. The next morning he passed a black stool. He again went to bed for a period of one week. This attack was followed by persistent constipation and abdominal distention which continued for about a month. At this point he was advised to have a gastro-intestinal and gall bladder x-ray examination. The report of this examination indicated the presence of duodenal ulcer while the gall bladder series gave negative results. In April 1930 he had what purported to be a thorough physical examination in which the inclusion of a gastro-intestinal series failed to substantiate the previous report. The diagnosis made at this examination was hypertension and chronic nephritis. No stool examination, however, was made at this time.

In June, 1931 he undertook a trip to Europe and during the time he was abroad he passed several black stools. While in Venice he became nauseated and vomited a large quantity of blood. He was hurried to the American Hospital in Paris where he was treated for gastric hemorrhage. He returned to this country in September feeling well with the exception of the continuation of the alternating constipation and diarrhea. On February 3, 1931, he was taken with extreme pain in the abdomen, especially on the left side. The diarrhea became more acute, and the stools contained blood and mucus. This condition ran for two or three days before the stools were examined. On the third day the stools were examined and were found to contain entamoeba histolytica in both vegetative and encysted forms.

On the first day after diagnosis was made he was placed on emetine hydrochloride 2 grains a day for seven days administered subcutaneously. On the second day the diarrhea disappeared and on the third day the amoebae disappeared from the stools. As a precautionary measure he was placed on Yatren, half a gram three times a day for seven days. Examination of the stools was continued daily for two weeks. The results remained negative for amoebae, blood and mucus.

On March 1 the man was stricken with a cerebral hemorrhage while at work and died on the morning of March 2.

The important parts of the autopsy are as follows:

Gastro-intestinal tract: Stomach—several submucosal hemorrhages but no rupture of any varix found. No ulcers in pylorus or duodenum; jejunum negative throughout. Colon—mucosa covered with numerous grey pin-point sized elevations. In addition there were several small diverticuli measuring 1.5 x 1 cms. some of which contained hard feces. No active amoebic ulcers were found; a few depressions were found which appear to be healing ulcers.

Liver: Weight, 2100 grams; dark red in color. On section no amoebic abscesses found.

TECHNIQUE

The stools were examined according to the following routine: color, consistency, mucus, macroscopic and occult blood, fat, amoebae and ova of intestinal parasites. The smears for examination for amoebae were made by Schaudinn's fluid fixation followed by Heidenhain's iron hematoxylin stain. The sections from the colon in Case 1 were also stained by this technique.

In examining the stained smears of the stools the possibilities of error in differentiating the pathogenic amoebae were fully recognized by the authors. The entamoeba histolytica must be differentiated from amoeba coli, endolimax nana, epithelial cells and large mononuclear cells.

DISCUSSION

Case 1. R. S. An interesting feature of this case is that he had amoebiasis and yet, according to his story, was never outside of New England. With a history of a bloody diarrhea for two years this patient consulted several physicians, but no stool examination was made during this time. The diagnosis, however, was not made in this case by examination of the stool. It was necessary to do a proctoscopy and secure material from the ulcers before the amoebae were found. This was a case of long standing in a patient who was very much run down. The treatment yielded no results because of his lack of resistance to the amoebae and to secondary infection. It is fair to assume that the terminal active tuberculosis resulted from a lowered resistance due to the long-standing diarrhea associated with amoebic infection.

The amoebae were found in the wall of the colon around the ulcers, but were not demonstrated in the perforated ulcers in the jejunum.

Amoebic ulcers in the jejunum are exceedingly rare. However, Runyan and Herrick[4] may be quoted as authority for the statement that they do occur in this part of the intestinal tract. Although the parasites were not demonstrated in the jejunal ulcers we believe that they were caused by amoebae. No cases of terminal rupture of ulcers in the jejunum were found in the literature.

Case No. 2. L. N. It is quite apparent that this patient has been ill with amoebiasis since 1919. In spite of the fact that he had many exacerbations in which diarrhea was a prominent factor, examination of the stool was not made. The history of the case is quite typical of amoebic dysentery.

In a case where digestive disturbance is the outstanding thing in the illness and especially when diarrhea is one of the symptoms, amoebiasis should always be considered. An examination of the stool should be made for parasites. If negative, and if the diarrhea persists, a proctoscopy should be done. The stools should be examined while warm, especially if the vegetative forms are to be found.

The finding of the amoebae in the appendix is not a rare thing and according to Clark[5] it occurs in 33.3% of cases showing active symptoms, but perforation of the appendix caused primarily by the parasites is relatively uncommon, occurring in only 1.6% of his series.

The improvement in the well-being of this patient was quite marked after treatment had been established. The digestive and neurological symptoms disappeared, and at present he is enjoying his work. He is now able to get along with his fellow workmen, a thing he could not do before entrance to the hospital.

Case No. 4. J. T. Differentiation of malignancy and colitis caused by the presence of amoebae is often difficult to determine by x-ray examination, a fact noted by many workers who are familiar with amoebiasis. In Case No. 1 (R. J. S.) as noted before, there was practically total obstruction of the lumen of the sigmoid. In this case (J. T.) the slight changes noted by the x-ray were undoubtedly due to the invasion of the mucosa by the parasites. Clinically, this patient had symptoms common to both diseases, namely loss of appetite and weight, secondary anemia, blood and mucus in the motions, diarrhea, gas and generalized abdominal tenderness which later became localized in the right lower quadrant. Examination of the stool confirmed the diagnosis of amoebiasis. This patient is still under observation since it is realized that both conditions, malignancy and amoebiasis, could exist at the same time. But now five months after entrance to the hospital she feels well; has gained in weight, the red blood count is approaching normal, and the gastro-intestinal symptoms have disappeared with the exception of a little gas after eating. A recent x-ray gives no evidence of malignancy.

Case No. 5. The past history of this case is not clear cut by any means. It seems reasonable to assume, however, that this patient has had amoebiasis for some years, even so far as back as 1917. Unfortunately the stools were not noticed until 1926 and at that time were black. The finding of digested blood in the stool and later red blood vomited cannot be attributed to amoebic infection. There was some other condition present causing bleeding high in the intestinal tract. In Case No. 1 (R. J. S.) ulcerations as high as the mid-jejunum gave no such findings. On the other hand this patient (F. M.) had marked hypertension for 22 years and the bleeding might have come from varices in the upper gastro-intestinal tract, since no evidence of other pathology was found at autopsy.

SUMMARY

1. This article consists of a clinical and laboratory study of five cases of amoebic dysentery found in residents of Massachusetts. Three patients had been in the tropics or semi-tropics.

2. Three cases presented symptoms of long standing, but no stool examinations had been made. The importance of stool examinations in patients presenting symptoms of amoebiasis is stressed.

3. It is also advised that a proctoscopy be done to secure material directly from the ulcers when the stools are negative for amoebae.

4. The following points in the symptomatology are mentioned:

A patient with amoebiasis may have vague gastric and neurological symptoms with no diarrhea.

A careful history may elicit a slight diarrhea which the patient had not previously deemed important. Such a case may show amoebae in the stools.

Alternating constipation and diarrhea is a common symptom of amoebiasis and was noted in three of our cases.

We wish to thank Drs. E. L. Hunt, R. J. Ward and C. J. Byrne for the use of their cases.

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THE PREPARATION OF A VITAMIN-CONTAINING VEGETABLE EXTRACT*

BY SHIELDS WARREN, M.D.,† AND H. ARCHIBALD NISSEN, M.D.†

PART I

IT is impossible at the average hospital, hotel, restaurant, or at home to obtain palatable, correctly cooked, well-flavored vegetables. This is obviously one of the biggest dietary problems in the average hospital, because the vegetables are usually stewed to death, or as one individual has put it, the "vegetables are skinned alive and boiled to death"; and the water in which they are cooked is then thrown away. This leaves a sodden, indigestible, cellulose mass, with a small amount of nutriment, and practically no vitamin or mineral salt content.

There are many instances where the patient needs mineral, vitamin, glucose ingestion, which is obtained primarily from vegetables, but the tremendous quantity of cellulose which has to be consumed in order to obtain the amount of elements desired makes it a very wasteful, almost impossible situation. If one could in any way regulate and control the quantity of cellulose residue and still retain in a usable form the mineral, vitamin, glucose content, it would seem that this problem had found a solution.

The different ways of preparation of food are very unsatisfactory. Ordinary boiling is maintained by a temperature sufficiently high to kill vitamin content activity, except in very strongly acid foods. Waterless cooking requires constant attention, and although mineral salt content is retained and flavor definitely is better, the vitamin activity is killed, and the quantity of cellulose is still too large for ordinary use. The consumption of raw vegetables is an unsatisfactory means of ingestion, because here the probable surface infections, contaminations, and detritus of various sorts make it a very uncertain way of serving vegetables. As is well known and recognized the soil, the age of the vegetable, the quantity of direct sunlight, the amount of water, all enter into the production of palatable, fresh, wholesome, nutritious vegetables.

To the average patient, especially in a hospital for chronic disease, the problem of mastication is a real one. The capricious vagaries of appetite and hunger are real and genuine. Vegetables represent, therefore, one of the sources of definite wasteful expense in most hospitals. So it seems that if a method of preparation could be devised that is practical and economical, and does not require a skilled employee to manage or to oversee, to develop a product which would

(1) contain a low or absent cellulose content,
(2) retain all of the mineral elements,
(3) preserve integrity of the vitamin content,
(4) possess the glucose content,

we would have a solution of these problems. This required a new method of preparation of food which we call the Vegetable Diffusion Extract Process. This method will be described in detail in Part II.

It is evident that by this method of preparation, in which all of the cellulose may be removed, the liquid remaining retains color, flavor, mineral salt content, vitamins B and C, and an adequate amount of usable glucose. This means that a given quantity of vegetable can be so prepared that we have the essential ingredients without the tremendous bulk of cellulose fiber.

PART II

With the assistance of Mr. Baylis M. Dawson, various methods of extraction were attempted and finally a diffusion method evolved which has proved consistently satisfactory. This method is relatively simple and efficient. The various mineral elements (provided they are present in the vegetable in soluble form) can be obtained in large part in the extracts, as can the soluble carbohydrates. The final product is potent in both vitamin B complex and vitamin C. The amount of roughage may be varied at will. The product is palatable and not infrequently has been utilized by patients for a considerable period of time without distaste. The preparation of the extract is carried out as follows:

Vegetable pulp is prepared by the slicing or grinding of leafy vegetables and shredding of root vegetables after proper cleaning of the material used. This is readily done by the machinery available in most hospital kitchens. The vegetable pulp is then placed with an amount of diluted orange juice varying with the type of vegetable in a steam-jacketed kettle. (See Table I for formulae.) The mixture of pulp and

TABLE I

THE DIFFUSION METHOD OF EXTRACTION

Formulae for ten pound quantities of vegetables

Vegetable Pulp (Ten Pounds)	Water (Quarts)	Orange Concentrate* (Ounces)	Water (Quarts)	Orange Juice (Quarts)
Beet	3.5	4	2.5	1.0
Cabbage	3.5	4	2.5	1.0
Carrot	3.0	3	1.5	1.0
Celery	3.5	4	2.5	1.0
Parsnip	6.0	4	5.0	1.0
Spinach	2.5	3	2.5	0.75
Vegetable Broth (Carrot—Spinach Celery—Parsley)	6.0	4	5.0	1.0

*If desired, orange concentrate may be substituted for orange juice as above.

*From the Palmer Memorial Hospital.

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diluted orange juice is held in an inner perforated container in the kettle for 45 minutes at a temperature of 65° C. If the temperature exceeds this for any length of time the vitamin content is impaired. During this period the fluid which collects at the bottom of the kettle is brought by an attached steam-driven pump to the top of the mass of vegetable pulp and percolates down through it. In order to insure even heating and the distribution of the percolating fluid throughout the mass, the pulp is stirred at intervals. At the end of the diffusion period the fluid is drawn off. The pulp may then be pressed and further fluid obtained. Skilled help is unnecessary.

The amount of water given in the formulae of Table I may be varied considerably. We have found, however, if less water is used the product tastes and smells so strongly of the vegetable that it may prove unpleasant to the patient. Using greater amounts of water results in slightly more efficient diffusion so far as the total amount of soluble substance obtained from the vegetable pulp is concerned, but on the other hand is less readily handled and at times less palatable.

The diffusion apparatus* (See Figure I) consists of a ten gallon aluminum kettle with rounded bottom, the rounded bottom being steam-jacketed. The temperature is controlled by regulating the amount of steam admitted to the jacket. Within the kettle is a loosely fitting colander in which the pulp is placed. There are two openings at the bottom of the kettle, one to the drain faucet, the other a pipe line to the steam-driven rotary pump†, which forces the fluid along a pipe which discharges above the surface of the mass of vegetable pulp, thus producing constant percolation. A cover, kept in place except during stirring, helps to maintain even temperature.

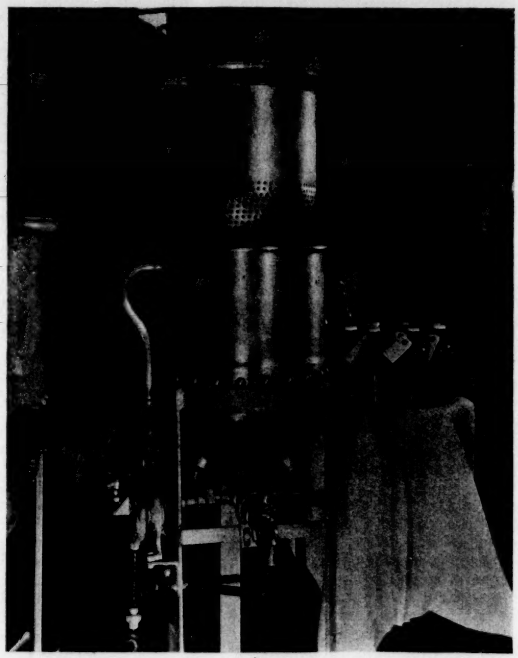

FIGURE I. Diffusion Apparatus. Note steam pump at left and inner perforated jacket above.

At the end of 45 minutes, the vegetable juice is drawn off through the drain faucet into sterilized glass bottles. These are kept in the refrigerator until used. In the hospital refrigerator one lot of cabbage and one of celery juice was kept eight months without spoiling.

*The apparatus used was supplied by the Aluminum Cooking Utensil Company.

†This pump requires a steam pressure of 20 pounds for satisfactory operation.

However, if the product is not kept cold, fermentation may proceed very rapidly. It is impossible to attain a sterilizing temperature in the course of the process without destroying in large part the vitamin content. Once the prepared juice has been permitted to remain at room temperature for an hour or more, its keeping qualities are materially impaired. As a general rule, the vegetable juice thus prepared has been taken by former patients of the hospital to their homes and kept in the ordinary type ice box for a period of three days in warm weather and a week in cool weather without any evidence of spoiling. Thus the product has to be regarded as distinctly perishable, although not quite so perishable as milk.

Carrot juice is most generally acceptable to patients. Spinach, beets and cabbage have been found palatable in the order named. Celery juice prepared in this method is much too strong for the average taste but may be utilized in a soup.

We have found various satisfactory means of administering the juice to patients. Some prefer to drink the straight undiluted juice, others like it diluted one-half with milk. A very useful way of serving any of the juices is to add them cold just before serving to an equal amount of any good meat stock soup held a little below boiling temperature. This mixture is not of sufficiently high temperature to destroy the vitamins contained in the juice, nor does it make the soup unduly cold by the time it reaches the patient.

If a known amount of roughage is desired in the diet, this may readily be added to the soup from the cellulose residue which remains behind after the extract is drawn off from the percolator.

Part III

Since one of the points desired in the product is an adequate vitamin content, several experiments were planned to determine the presence or absence of vitamin B complex and vitamin C.

To test for vitamin B complex four pigeons were used, two being placed on a diet of boiled polished rice and two others, in a separate cage, being fed on the same diet with the admixture of 10 c.c. of vegetable extract per day. The two pigeons receiving vegetable juice with their diet were alive and well at the end of six weeks. One of the control pigeons died of infection three weeks after the onset of the experiment, the other showed marked symptoms of polyneuritis at the end of that time. Eight guinea pigs, weighing about 500 grams each, were kept for three months on a diet consisting of hay and oats autoclaved at fifteen pounds pressure for fifteen minutes, and then after autoclaving mixed with 100 c.c. of carrot extract. All the pigs were alive and well at the end of five months.

To determine the presence or absence of vitamin C the scorbutic diet of Wolbach and Howe[1] was used. Four 500 gram guinea pigs were placed on the scorbutic diet and four on the scorbutic diet plus 10 c.c. of carrot extract per day. At the end of twenty days all the controls showed definite evidence of scorbutus, which cleared up under the administration of orange juice. At the end of two months the guinea pigs on the scorbutic diet plus carrot extract were alive and well. In both these experiments the vegetable extracts were prepared with the use of orange concentrate rather than orange juice in order to avoid any false results from vitamin C in the diluted orange juice which might be carried over into the extract.

Quantitative studies were carried out on the various extracts from the standpoint of the carbohydrate content and the calcium content. The results of the studies on carbohydrate content are shown in Table II. According to Myers and Croll[2] the ordinary method of boiling vegetables removes from 23% to 66% of the available carbohydrate. It will be seen from the table that the best results by the extraction diffusion process are obtained from those vegetables which showed the greater loss of carbohydrate by the ordinary method of cooking. The smallest value, 0.5%, was obtained in spinach, which loses almost none of its carbohydrate content in the process of cooking. Spinach is also notable, as will be seen from Table III, in that its contained calcium is present in insoluble form so that only a very slight amount is lost in the ordinary

TABLE II

Carbohydrate Content of Vegetables

	Fresh	Boiled	Vegetable Extract†
	%	%	%
Cabbage	4.5	2.0	2.9
Celery	3.3*	1.2	1.2
Carrot	6.2	4.3	2.8
Spinach	2.3*	2.3*	0.5
Beets	8.8*	7.0*	3.3

*Includes fiber.
†Includes orange concentrate.

(Some values taken from Peterson, W. H. and Hoppert, C. A., J. Home Economics, 17:1, 1925.)

TABLE III

Calcium Content of Vegetables and of Extract
(Grams per cent.)

	Raw	Boiled*	Steamed	Extract
Cabbage	0.0338	0.0129	0.0202	0.0190
Celery	0.0634	0.0501	0.0561	0.0104
Spinach	0.0763	0.0785	0.0783	trace
Beets	0.0227	0.0219	0.0223	0.0151
Carrots	0.0350	0.0319	0.0332	0.0231

*Just sufficient water to cover vegetables. If more water is used, calcium loss is considerably greater.

cooking process. The chemical determinations were made on samples prepared with orange concentrate rather than with orange juice. The amount of sugar added in this way represents 0.4%.

Part IV

CLINICAL INDICATIONS AND USAGE

The average American dietary is accepted as being insufficient as regards vitamin and mineral content. Deficient amounts of vitamins A and D are easily supplied by means of Cod Liver Oil preparations, and vitamin C by orange juice. Vitamin B can be used in the form of Vitavose, Bemax, brewer's yeast, or Vegex. However, these are monotonous over a long period of time and require rather special preparation in order to be palatable and acceptable to the average patient. A liquid preparation, which can be diluted, added to soup or mixed with cereal possesses obvious value in hospital, home, hotel or restaurant life. The recent urge to make one's colon a silo as if all colons could be both filling stations and storage places for ensilage creates even a greater demand for a palatable vegetable diffusion extract.

The work as outlined in Parts II and III proves that this process,—the vegetable diffusion extract process,—is a desirable way to give a known quantity of vitamin, mineral, glucose preparation daily, and the requisite amount of cellulose fiber can be added easily from the residue after preparation of the extract. This residue can be boiled until it is thoroughly broken up and softened, and the quantity can be adjusted to meet the demands of the patient or individual being treated.

Our clinical and experimental work has been carried on for over a year and at present we feel justified in saying that this process of preparation can be carried on in the average hospital with the addition of but little extra machinery. The surgical case, the postoperative case, the convalescent, the patient with chronic disease, the infant, the child, indeed the average American, can be more assured at the present time of securing the vital elements of vegetables if this extract is used than by following the customary hit and miss method of food consumption of today.

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FISTULA IN ANO

BY J. J. LONGACRE, B.A.*

SINCE the dawn of history, when man emerged from his arboreal state, the human species has been troubled with a number of disabling and painful diseases of the anus and rectum. Going back to the earliest records of surgical literature, we find methods for the treatment of these conditions, particularly of fistula in ano. In fact, it would seem that, apart from the operation of trephining, which dates back to the Stone Ages, the operations devised for the cure of fistula in ano were among the earliest to be performed.

In the days of early civilization, when cleanliness was not upheld as a virtue, when water was used only for drinking purposes, and the horse was the only means of conveyance, fistula in ano was more frequent and was a more serious matter than now. There is a reference to its treatment in the Code of Hammurabi, which dates back to twentieth century B.C. The Greeks evolved a successful manner of handling this condition. Hippocrates inserted a tin probe into the fistula and brought it out through the anus and with this as a guide passed four or five setons wrapped with horse hair through the fistula. When the ends had been tightly tied, "the patient was told to go about his matters". Among the surgical instruments uncovered at Pompeii were found several used in operations on fistula, showing that treatment by operation was known in the 1st century A.D.

During the Dark Ages which followed the fall of Rome, there was a "mental backsliding in things medical as well as in other departments of knowledge". As a result, these methods for treating fistula were largely forgotten. From all accounts in Medieval Literature, the knights and men at arms, who wore heavy armor and who rode on horseback, were especially troubled. The surgeons of the times attempted to produce a cure by various and sundry heroic procedures. Their results, however, were poor and it remained for that adequate surgeon, John of Arderne (1308-1380), to go back to the writings of Hippocrates, there to rediscover and amplify the treatment with which the Greeks had successfully cured fistula in ano.

In the beginning of his most celebrated treatise on "Fistula in Ano," which John of Arderne wrote at the age of seventy, he states, "And this I say, that I know not in al my tyme, ne hard in al my tyme, of any man nouther in Yngland ne in parties beyond ye see that kouthe cure fistula in ano." John's manner of cure showed considerable ingenuity. He first passed a ligature through the fistulous tract, and then cut cleanly down upon the fistula. He controlled the bleeding by pressure only and at later dressings used simple astringents. As to after-treatment, he gave daily enemas of oil

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through a wooden clyster pipe to which was attached a swine's bladder. He did not always do a complete operation at one sitting and when the internal opening was high, so that hemorrhage was to be feared, preliminary treatment with the setons was resorted to. A cure was expected in 20 to 40 weeks. Cures of fistula in

A FOURTEENTH CENTURY MASTER SURGEON OPERATING FOR FISTULA IN ANO.

those days were rare, and John of Arderne was able to demand a high premium for his great skill, receiving a fee of as much as £400 and 100 shillings a year as long as his patient lived.

Apparently, John of Arderne's methods were too radical for his day and for the next 500 years the fistulous tract was treated by the old conservative method of passing a ligature through it and tying it tightly, with the failures to be expected. Peter Lowe, writing in 1612, describes three methods of treatment: burning the fistula away with a cautery, cutting it open, and ligature. After discussing the various methods, he decides in favor of ligature, because of the fact that it is less dangerous. Ambroise Paré, writing in the 16th century, describes "Fistula in the fundament," but speaks only of cure by ligature. Louis XIV was operated upon for a fistula, and according to historical records, his surgeons received a fee of £6,000, one of the largest surgical fees ever collected.

ETIOLOGY

The primary cause of fistula in ano is an abscess (ischiorectal or perirectal) in the tissues surrounding the rectum, which bursts either into the anal canal or outward to the skin, or in both directions, and produces what is commonly called a fistula. The usual etiological factors responsible for these abscesses are: abrasions at the mucocutaneous line, fissures, ulcers, hemorrhoids, furunculosis, suppuration of intramuscular glands and carcinoma of the rectum.

PATHOLOGY

The usual manner of production of an ischiorectal abscess is as follows: Constipation or diarrhea with tenesmus leads to the formation of a small abrasion at the mucocutaneous line. Organisms, chiefly staphylococci, streptococci and colon bacilli, which are normal inhabitants of the lower intestinal tract, set up an infection at this point. The infection extends lateralward into the ischiorectal fossa. The ischiorectal fat is easily destroyed. The inflammation makes its way upward, but further extension is barred by

ARDERNE'S INSTRUMENTS.

1—Vertile
2—Tendiculum
3—Acus rostrata
4—Syringe
5—Syringe—Arderne's modification
6—Sequere me
7—Frænum Cæsaris
8—Lancet

the dense fascia covering the levator ani muscle. If untreated, the abscess tends to point either toward the surface or toward the rectum. It eventually ruptures and its contents are discharged. The cavity fills in by granulation in two or three weeks, but leaves a narrow discharging sinus tract or fistula.

The treatment for ischiorectal abscess is adequate surgical incision made radially or circumferentially outside the anus under general anaesthesia. The abscess should then be drained by packing with boric strips—allowing the cavity to fill in from above. Despite the best treatment, fistulae tend to occur. Evidently, there is some anatomic peculiarity of this region which

accounts for the formation of fistulous tracts. Two possible answers have been advanced, though their relation is as yet unproved. (1) There are present, deeply buried in the walls of the anal canal, glandular structures—analogous to certain odorous sex glands of lower animals — from which infectious processes, once started, can break in two ways, i.e., into the anus and upon the skin. (2) According to Harris, there are certain epithelial structures between the internal and external sphincters, left by an overlapping in the coming together of rectal and anal epithelial linings which may act in a similar way.

SYMPTOMS

The establishment of a fistula is insidious as a rule. An ischiorectal abscess is opened, drained, and may entirely heal or may still have a pinpoint opening. Some weeks or months later, the old scar opens and there is a slight discharge of thin, watery pus. This opening closes and then reappears and the only symptom that the patient may complain of is soiling of the underclothes. Backache and pain along the sciatic nerve may be present.

On examination of the fistula, usually a single external opening but occasionally multiple openings will be found, through which a probe may be introduced along a sinus tract surrounded by a wall of hard fibrous tissue (which may be felt as a cord by introducing the examining finger into the outer portion of the anal canal and palpating the adjacent skin).

In treating fistula in ano the secret of success is the discovery of the internal opening; hence, the site of this opening becomes a matter of great importance. Its position is usually in the mucocutaneous line posteriorly, next most commonly along the mucocutaneous line anteriorly, and occasionally along the lateral wall. A helpful but not infallible rule is as follows: With the patient in the lithotomy position, all fistulae with their external openings posterior to a horizontal line drawn through the anus have their internal opening at the posterior mucocutaneous junction. Those anterior to the line run in a radial direction toward the rectum.

TREATMENT

The treatment is surgical. Under general anaesthesia, the sphincter is fully dilated. A probe is then introduced into the tract and gently twisted and turned until it has been pushed out through the internal opening into the anal canal. Considerable patience and perseverance are often necessary. If probing fails, the internal opening may be demonstrated by injection of methylene blue or milk into the tract.

If the internal opening is in the posterior mucocutaneous line, the entire tract is laid open by incision through the soft parts. The chronic inflammatory tissue is then cut away or curetted out and the wound packed wide open, with boric gauze. The wound must be allowed to heal from the bottom.

If the internal opening is on the lateral aspect of the anus, the tract is excised or incised. If it is necessary to cut the sphincter, the cut should be made perpendicular to the direction of the muscle fibers. Reconstruction of the sphincter muscle by 3 or 4 catgut mattress sutures shortens the convalescence and prevents the possibility of fecal incontinence.

The above treatment of simple fistula applies likewise, with slight modifications, to the treatment of complicated fistulae. Better results are obtained if the long and devious external sinus tracts are incised, curetted and allowed to heal by granulation. At a second operation, the external sphincter is divided and the fistulous tract is opened into the rectum and curetted. If these principles are carried out, healing with very little disability results. When bilateral ischiorectal abscesses develop from an internal rectal opening, with the external openings at some distance from the rectum, long fistulous tracts are produced which almost encircle the rectum and we have a condition known as horseshoe fistula in ano. In this case the long fistulous tracts should be incised, curetted and allowed to heal, and at a later session, after the external soft part defects have healed, the simple fistula remaining may be opened through the anal canal.

Certain neglected simple fistulae in ano become complicated by ischiorectal abscesses owing to improper drainage through the external cutaneous opening of the fistulae. If the abscess is very large, primary drainage is best. If it is small, division of the fistulous tract into the rectum and drainage of the ischiorectal fossa may be accomplished at the same operation.

As indicated, the treatment of fistula in ano is surgical and is best accomplished under general or spinal anaesthesia. Local anaesthesia, however, is preferred by certain men. As to the prognosis, David believes that 95% of non-tuberculous fistulae in ano may be cured by observing the following general principles:

"(1) Adequate drainage of pus from an ischiorectal or perirectal abscess, allowing the tissue to return to normal and the sinuses to become as small as possible before radical operation for the cure of the fistula is attempted.

(2) Multiple operations in extensive complicated fistulae, which allow much of the soft parts to heal before the bowel is opened.

(3) Except in the posterior raphe, both sphincters are never cut without reconstruction at the end of the operation. When the whole body of the external sphincter is cut, except in the coccygeal extension where it is splinted and prevented from retraction, it is always best to suture the muscle ends.

(4) Tight packing should be avoided.

(5) Careful after-treatment is essential to

keep the wound clean, provide adequate drainage, and insure healing from the bottom."

A certain number (10% to 15%) of fistulae are tuberculous in origin. These differ from the pyogenic type in that their onset is not accompanied by pain and they are very persistent and resistant to treatment. In this case the general measures of rest, good food, sunlight and fresh air are more important in the cure of the lesion than any local measures which may be applied.

EARLY MEDICAL HUMANISTS: LEONICENUS, LINACRE AND THOMAS ELYOT*

BY JOHN F. FULTON, M.D.†

Gentlemen:

SIR WILLIAM OSLER often told his students that no man is safe in life without a hobby[1]. I have always been inclined to take this advice seriously, but I have observed in others who heed the dictum that they appear to be safe enough in their profession, but less can usually be said of their avocation! This is likely to be true of physicians who dabble in history and literature, and I therefore approach the Elizabethan Club with a sense of great insecurity, feeling that in electing to speak on a literary subject I shall only reveal my ignorance and my limitations as a scholar.

From time to time there have been physicians who have contributed notably to literature, and the profession of medicine has always held them in great reverence. We are proud of Oliver Wendell Holmes, not alone for having proved the contagiousness of child-bed fevers—others would have made this discovery—but because he wrote "The Chambered Nautilus"[2] and other literary creations of supreme beauty. We like to recall that men such as Robert Bridges and Weir Mitchell were physicians, and that medical men have contributed to literature and to scholarship. Attention, however, is seldom directed to the influence exerted by the early medical humanists upon the broad field of letters; and it is to this subject that I should like now to invite your attention.

The medical humanists of the fifteenth and sixteenth centuries played an active part in promoting the New Learning, and they also influenced very considerably the growth and stability of the vernacular tongue. They were among the first to form a large body of literature in French and in English, and in so doing they helped to create and to stabilize the prose of their country. This aspect of their influence has received too little attention in the past, and I think we cannot overestimate its importance in the development of modern languages.

LEONICENUS

It is seldom that one can assign the beginnings of a great movement to the influence of one man; yet it is literally true that the humanistic movement in medicine received a greater impetus from the labours of Nicolaus Leonicenus than from any other scholar of the fifteenth century, and some feel that he was virtually responsible for the renaissance of medical scholarship[3]. Leonicenus made no great discoveries in medicine and was accredited with no dramatic cures. Throughout the greater part of his long life he did not even practise medicine, but, living as a recluse in Ferrara, he found an enthusiastic body of students flocking to his door to gather the first fruits of the New Learning, and from him they received in return a training in sound scholarship and a breadth of outlook that he had effectively transmitted from the Golden Age of Greece.

Leonicenus[4] was born early in the fifteenth century and died in 1524, lacking but four years of a centenarian. He assigned his longevity to having delivered himself into manhood chaste—just as Voltaire, two centuries later, attributed his health and his years, to his freedom of thought and of action! Be this as it may, chastity was a considerable boast in the sixteenth century, and one at least of his contemporaries paused long enough to record his surprising confession. Leonicenus's health was frail and he is said to have suffered from epilepsy from the age of thirty on. We honour his name more for the influence he exerted, and for the scholars he trained, than for his own output of work. It is true that he was the first to translate Galen and Hippocrates from their original Greek texts into Latin[5], and his rendering has withstood the painstaking analysis of four centuries of classical scholarship[6].

The other writings of Leonicenus were bold, and, in an age of slavish adherence to authority, he stood out as an independent thinker who had strong convictions and the courage freely to speak his mind. His first published book (1492) dealt with the 'Errors of Pliny'[7], but it was looked upon with much alarm by his conservative contemporaries and brought him into active conflict with Politian, Barbarus and other scholars of Italy. The book was cried down, and unfortunately the personal abuse which he received made him unduly cautious concerning publication in the future, a circumstance which undoubtedly diminished his output of scholarly work. His only contribution to clinical medicine was a book on syphilis[8] published in 1497, while the disease was raging through Europe.

LYONS: CHAMPIER, RABELAIS AND DOLET

Though I propose to deal with Leonicenus's influence upon his English pupils, I should like

*Read to the Elizabethan Club, New Haven, Tuesday evening, April 28, 1931.

†Fulton—Sterling Professor of Physiology, Yale University 1930-. For record and address of author see "This Week's Issue," page 159.

to pause for a moment to speak of the early humanistic movement in France. Living at Lyons at the beginning of the sixteenth century was a very picturesque and scholarly man bearing the name Symphorien Champier (1472-1539)[9]. His personality has been vividly described by Willis[10] as follows:

"Among the learned works that flowed in a sort of ceaseless stream from the presses of the Trechsels during Servetus's tenure of his office as reader with them, were several from the fertile pen of Doctor Symphorien Champier, or, when he latinised his name, Campegius, a man of large and liberal culture, of a truly noble nature, an admirer of learning and a patron of the learned; possessed moreover of that restless vanity which made him feel it as much a matter of necessity to live in the eye of the world as to breathe; the effect of which was that he exerted the widest and most beneficient influence among his fellow men. Indefatigable in his proper calling, there was yet nothing which interested the citizens of Lyons that did not interest him. Fearless in bringing help on the battlefield, to which he accompanied his chief the Duke of Lorraine, he was no less ready to brave pestilence in the city, and was as often to be seen in the hovels of the poor as in the palaces of the great and wealthy—*inoptibus et infortunatis aeque indiscriminatimque succurris opitularisve*, says his biographer—a true physician, a great and good man."

Though he received his medical degree from Montpellier, Champier had also been in Italy and may have known Leonicenus, but there is no direct evidence that he studied with him. Their interests and their standards of scholarship were so similar that it was impossible to doubt that he had been influenced by his older Italian contemporary. On looking into the matter, I find that Champier frequently refers to Leonicenus and includes him, though still alive at the time, in his cyclopaedia of medical biography written in 1506, describing him as follows:

"Nicolaus Leonicenus of Vicenza, physician, thoroughly trained in the Latin tongue, and ('gloriose imbut') most distinguished for his knowledge of secular literature. He is said to have written many works of which I have seen only the following, viz: One book on the mistakes of physicians[7], and one[8] on the epidemic which the Italians call French disease, but the French the Neapolitan, dedicated to Johannes Franciscus of Mirandola. He is still living today at Ferrara and writing various works."

On settling down at Lyons, Champier began to issue a series of remarkable books, all beautifully printed and well translated,—editions of Galen, Aristotle, Hippocrates and, among other things, the first dictionary of medical biography[11], to which we have just alluded. During the fifteenth century Lyons had been a town of scholars and some may feel that Champier was merely carrying on a tradition already well established, but he carried it into medicine and in doing so he became the friend of Rabelais. It is probably not without significance that Rabelais, during his Lyons period, revised and annotated Leonicenus's Latin translation[12] of the Aphorisms of Hippocrates and attempted other translations of medical works. Those of you who are Rabelaisians will recall that his knowledge of medicine is frequently illustrated in his literary works[13]—written incidentally in the vernacular—and few realize that for many years he was a teaching, practising physician, and the first at Montpellier to lecture on Hippocrates from the Greek text. In fact, Rabelais may well be looked upon as the most influential medical humanist of this period in France.

I would like to tell you more about the Lyons group, but this would carry us too far away from our central theme. I propose, however, to describe very briefly the dramatic career of Étienne Dolet, one-time friend and later an enemy of Rabelais. After traveling in Italy, Dolet returned to Lyons and devoted himself to printing, especially the medical classics[14]. He was prepared to make a great step toward the humanizing of medicine by the publication of Galen and Hippocrates in the vernacular tongue. Leonicenus had rendered them into Latin, but as Latin could not be read by the vulgar, Dolet felt that the masterpieces of Greek and Roman medicine should be put into his own language. He even wrote a little book on how best to translate from one tongue into another (1540)[15]. He also rendered some of Galen into French, and among his translations is the interesting little tract on the physiology of muscular contraction (see below). But the howl from the conservative medical faculty at Paris soon proved to be his undoing. Dolet found himself in the courts in 1542 for an heretical passage in one of his theological works, and he was burned with all of his books at the stake. Thus ended the career of a great printer, a courageous spirit and a leader of the humanistic movement.

In the group at Lyons one finds the enthusiasm and ferment which marked the dawn of a new age in letters. Apart from Rabelais, however, the personalities are very obscure. They have come down to us largely through prefaces and dedications, and as we try to piece together a picture of their life, we encounter a wealth of human interest, and we are constantly impressed by the richness of their intellectual activity.

LINACRE

Turning again to Italy, we find there in 1488 an undergraduate from the University of Oxford who had been drawn thither in the belief that Italy was "the nursing mother of men of genius" (Sandys). He bore the name of Thomas Linacre, and it is a curious fact that only the most meagre details have survived concerning the lives of that memorable triumvirate, Grocyn, Latimer and Linacre, whose labours mark the beginning of true English scholarship; and less is known of Linacre than of the other two. In the words of the medical historian, Freind[16], "Canterbury gave him his birth

(1460) and Oxford his education; he was chosen in 1484 Fellow of All Souls." Be this as it may, Linacre, while at Canterbury, came under the influence of the first Greek scholar of England, a Benedictine monk named William de Selling, who had already felt the stimulus of the New Learning. Sandys[6] believes that de Selling was Linacre's uncle and this may account for the fact that it was through him, in 1488, that Linacre had the opportunity to cross the Alps and to study Greek in Italy at the fountain-head[17]. Selling had been sent by Henry VII on an embassy to the Pope, and tradition has it that Linacre accompanied his master only as far as Bologna; there he met his teacher, Politian, whom he followed a year or two later to Florence, where they worked together at the court of Lorenzo the Magnificent. Sandys[6], on the other hand, maintains that Selling introduced Linacre to Politian in Florence. Linacre also had contact, while at Florence, with other Greek scholars of the Florentine Academy and, as Osler has remarked[17], "He may have sat at the same board with Michael Angelo, Marsalio Ficino and Pico della Mirandola." From Florence, Linacre proceeded to Rome and we then lose track of him until about the year 1495, when we find him in Venice, living at the house of Aldus Manutius[18], the scholar-printer and founder of the Aldine Press. Aldus had dedicated his life to the perpetuation of the great classics of Greek learning. Preferring Aristotle to Plato, he first gave his attention to issuing a complete edition of the Greek text of Aristotle's works, his earliest substantial venture as a printer[19]. Aldus surrounded himself by the best scholars of the day, and it is a fact of some significance that he should have sought out Linacre. The first volume of the Aldine 'Aristotle' appeared in 1495, and in the preface to the third (which is dated February 1497) he mentions Linacre by name and praises his scholarly attainments[20]. I cannot show you this particular volume, but I have here an odd copy of the second volume (January 1497), which contains Aristotle on the movement of animals. Probably this also came under Linacre's supervision, though he is not specifically mentioned in the preface. In 1499 Aldus published Linacre's translation of Proclus on the sphere[21]. In the Dedication of this work Aldus again pays high tribute to Linacre's scholarship, saying that he had translated this work "with elegance and learning".

But Linacre had not yet finished his sojourn in Italy. He had found time to obtain a medical degree from the University of Padua in 1492, and he must have gone to Ferrara (possibly before his time in Venice) to sit at the feet of Nicolaus Leonicenus, with whom he studied Hippocrates. Linacre refers to his master in terms of deep affection, and Leonicenus, in turn, reciprocated, speaking in more than one place of Linacre as his pupil[22]. Linacre had learned his Greek at first from de Selling, later from Latimer and Grocyn, polishing it further with Politian, but it was from Leonicenus that he acquired the traditions of medieal scholarship. Available evidence leaves much to surmise, but, in the few prefaces to Linacre's works which have come down to us, we eateh glimpses of the man, his vivid personality and above all his loyalty to his teachers. On his way back to England in 1499 he erected on the highest point of one of the Alpine passes an altar of stones dedicated to his *Sancta Mater Studiorum*—Italy.

It appears that Leonicenus entrusted Linacre with the publication of several works which he had translated in the hope that, before being issued, his text might be improved through the discovery of a more perfect manuscript. One of these works is of special interest to me personally because it happens to be the first printed monograph relating to my subject, the physiology of muscular contraction. The book was by the great Galen, physician to Marcus Aurelius, and bore the title *De Motu Musculorum*[23]. Leonicenus had entrusted it to Linacre and Linacre kept it until 1522, when he caused it to appear at the press of Pynson, the successor of Caxton and the foremost printer at the time in London. Unhappily, only one complete copy has survived[24] and I would like now to read you a translation[25] of Linacre's brief preface.

"Linacre to the reader, greeting.

There is nothing I desire more than to make the works of Galen—after Hippocrates the greatest benefactor of human health—available to all who use the Roman tongue. With this in view, as far as my own health permitted, I have translated into Latin, to the best of my moderate ability, those that have come into my hands, and I am still doing so. As for this excellent little work of his on muscular motion which the learned Nicolaus Leonicenus has turned into Latin, and which my Florianus has sent to me from the city, I could not let students be deprived of it for long, or refrain from having it printed in many copies and as soon as possible. Its readers will make allowances if they do not find it correct throughout. A single copy, which was all I had, is seldom free from mistakes; and lack of care on the part of the printer will have added others. Kind reader, farewell."

By a curious decree of fate this treatise on the physiology of muscular motion was one of the first medical texts of antiquity to be translated into a vernacular tongue, for in 1541 the lamented Dolet printed a French translation of the Leonicenus-Linacre text which had been made for him by an obscure physician of Lyons bearing the name of Jehan Canappe[26]. I am fortunate enough to possess a copy of this rare translation, of which only one other complete copy is known. It contains a spirited preface written by a courageous protagonist of spoken French. I shall not read it in full, but I would like to give a rendering of one of the more pungent passages.

"Galien, Du Movement des Muscles.
The Translator to the Reader
Greeting.
* * * * * *

"At the same time I am sorry that they have not understood and remembered that saying of the divine Plato, which Cicero cites in the first book of his *De Officiis;* it is that we are not born for ourselves alone, but our country and our friends must also have some part in our birth, that is to say, derive some benefit from us. Here is the reason which led me (according to my promise) to give an introduction and understanding of anatomy, of bones, muscles and their movement, to those who have not learned Greek or Latin; considering that the arts of medicine and surgery have nothing to do with language, for they are equally well understood in Greek, Latin, Arabic or French, or (if you wish) in Breton dialect, as long as you understand it thoroughly. Let me add the saying of Cornelius Celsus, that sickness is not healed by eloquence, but by remedies. I beg you, Reader, do not be offended by our labours, unless you change your mind and deem it a small thing to improve yourself in your art."

After returning to England, Linacre gave lectures on Aristotle's *Meteorologia*, and issued three of his own translations of Galen, *De Sanitate Tuenda* (1517), *Methodus Medendi* (1519) and *De Temperamentis* (Cambridge, 1521). In 1509 he was appointed physician to Henry VIII, and later tutor to Princess Mary, for whom he prepared a Latin grammar. His most important contribution to scholarship, however, was the treatise *De Emendata Structura Latini Sermonis* (1524), published the year of his death. In 1518 Linacre had founded the College of Physicians in London—which is still in existence.

SIR THOMAS ELYOT

My title restricts me to a consideration of medical humanism, but in closing I propose to describe the career of a man who was not a physician, but who reflected in a very striking way the spirit of the humanistic movement. It is true that Thomas Elyot wrote a very popular book on medicine, *The Castel of Helth*, but it was the work of a layman and evoked the wrath of the medical profession, not because it was by a layman, but because he wrote in English. Elyot, like Dolet, was one of the small band of pioneers who, though appreciating the beauty of classical tongues, fought strenuously throughout an active life for the supremacy of his native language. As such he became a foremost pioneer of English prose literature. His writings, taken as a whole, serve as a most important, perhaps the most important (Croft), secular link between the English of the time of Chaucer and the English of the time of Francis Bacon. It is a prose, which, by dropping a few obsolescent words, became Elizabethan prose, and this is one of the reasons why I have ventured to remind you of him tonight.

The details of Elyot's life are wrapped in obscurity[27]. He was born prior to 1490 somewhere in Wiltshire and was graduated either from Oxford or from Cambridge. But much more important than this is his own statement in the Proheme to *The Castel of Helth*, that before the age of twenty he was tutored in Latin and Greek by a learned physician, whom all authorities agree was Linacre.

"I was not all ignorante in phisycke, for before that I was. xx. yeres olde," he says, "a worshipfull phisition, and one of the moste renoumed at that tyme in England, perceyuyng me by nature inclined to knowledge, rad unto me the workes of Galene of temperamentes, natural faculties, the Introduction of Johannicius, with some of ye Aphorismes of Hippocrates. And afterwarde by mine owne study, I radde ouer in order the more parte of the warkes of Hippocrates, Galenus, Oribasius, Paulus Celius, Alexander Trallianus, Celsus, Plinius ye one and the other, with Dioscorydes, Nor I dyd ommit to reade the longe Canones of Auicena, ye Commentaries of Auerrois, ye practisis of Isake Halyabbas, Rasys, Mesue and also of the more part of them which were their aggregatours and folowers. And all thoughe I haue never ben at Montpellier, Padua, nor Salern, yet haue I found some thynge in phisycke, whereby I haue taken no litle profyte concernynge myne owne helthe."

Here then we see the influence of Linacre at first hand. Few other details are known concerning him prior to 1523, when he attracted the attention of Wolsey, who appointed him to the post of Clerk of the Privy Council. In November, 1527, we find him in the post of Sheriff of Oxfordshire, and following the publication of his *Boke Named the Gouernour* in 1531 he was appointed ambassador to the court of Charles V and had the thankless task of securing the Emperor's consent to his sovereign's divorce of Catherine of Aragon. Elyot made many other trips to the Continent, but the details of his public service are little known, as none of his State correspondence has come down to us. He died in 1546.

Elyot met the fate shared by all early protagonists of the vernacular—his writings were all many times reprinted and were thumbed rapidly out of existence, and it is seldom that more than three or four copies of any one edition are known. Thirteen separate books are attributed to Elyot's pen, and some of these exist in as many as ten sixteenth century editions.

In championing the introduction of the vernacular in medicine Elyot rendered a great service, and one gains some insight into the prejudice which he encountered from the 'Proheme' to the revised edition (1541) of the *Castel of Helth* (the earliest known edition is 1539). The passage just cited was called forth by the accusation that he knew no physick. Thus he says:

"Why shuld I be greuyd with reproches, wherewith some of my countray do recompence me, for my labours taken without hope of temporall rewarde, onely for the feruent affectyon whiche I haue euer borne toward the publike weale of my countray. A worthy matter, sayth one, Syr Thomas Elyot is become a Phisition, and wrytethe in phisik, which besemeth not a knyght, he mought haue ben moch better oc-

cupied. Truly if they wil calle him a phisition, which is studiouse about the weale of his countray. I witsaufe they so name me." . . .

He goes on:

"But if phisitions be angry, that I haue wryten phisike in englyshe, let theym remembre, that the grekes wrate in greke, the Romanes in latyne. Abicena, and the other in Arabike, whiche were their owne propre and maternal tonges. And if they had bene as moche attached with enuy and couaytise as some nowe seeme to be, they wolde haue deuysed somme particuler language, with a strange syphre or fourme of lettres, wherin they wold haue writen their science, which language or lettres no man shoulde haue knowen that hadde not professyd and practised phisycke: but those, although they were painimes and Jewes, in this parte of charitye they farre surmountid us Christianes, that they wolde not haue soo necessary a knowledge as phisicke is, to be hyd frome them, whych wolde be studiouse aboute it.

Fynally god is my Juge, I wryte neyther for glory, rewarde, nor promotion, only I desyre men to deme wel myne intent, sens I dare assure them that all that I haue writen in this boke, I haue gathered of the moste princypall wrytars in phisicke. Which beinge throughly studied and well remembred, shalbe profitable (I doubt not) unto the reder, and nothynge noyouse to honeste physytyons, that doo measure theyre study, with moderate lyuinge and Christiane Charity."

I would like finally to tell you about *The Gouernour*. It is devoted to a consideration of education in its broadest aspect. Though intended primarily as a treatise on the education of statesmen, the book throws a flood of light upon the schools of the day, as well as upon contemporary scholarship. Croft[27], who in 1883 brought out a copiously annotated edition of *The Gouernour*, has remarked significantly:

"We may fairly reckon Sir Thomas Elyot among the earliest advocates of that system of education under which, with certain modifications introduced from time to time to suit the habits of the age, English gentlemen have been trained during the last three centuries and a quarter. It seems probable, therefore, that the ignorance undoubtedly prevailing with respect to him has arisen from a combination of circumstances peculiarly unfavorable to the perpetuation of his memory. Let us see what these circumstances are. In the first place we must recollect that although Sir Thomas Elyot was employed in the public service of his country, and, in the capacity of ambassador, conducting most delicate negotiations, occupied a conspicuous place in the eyes of his own contemporaries, yet his claims to remembrance by posterity rest simply and entirely upon his services to literature."

Our own educational methods are in a state of flux. At the moment we are tending to revert to certain principles now in practice over the sea, and I would urge that if we are to incorporate English traditions in our University, we would do well to study the foundations of the English system of education. It had taken root in the sixteenth century and Elyot gives us the full details of its beginnings. I therefore commend the book to you on this and on other grounds.

I think the members of the Elizabethan Club will be interested in studying some of the early editions of *The Gouernour*. They illustrate some of the practices of contemporary printers and each edition well repays careful study. You will be amused by the famous woodcut border of 1534. This appears in many of Elyot's works and in other works printed during a period of some fifteen years by Bertholet (e.g., Xenophon). In some of the later issues the corrected date was printed within the woodcut border with no attempt to correct the border itself.

CONCLUSION

"A copy of 'Vigo en Françoys' fell by chance into the hands of a raw back-shop apprentice who bore the name of Ambroise Paré and the book did smite the boy like another evangel, and shortly thereafter surgery in France was the best surgery the world had ever seen." In this delightful sentence Streeter[26] has aptly described the chief outcome of the humanistic movement in medicine. The movement had its beginnings with Leonicenus of Ferrara who, during the last years of the 15th Century, trained a loyal group of physicians in the high traditions of classical scholarship. Many of his pupils, of whom the most important was Thomas Linacre, carried their newly acquired learning back to their native countries. Some who had felt his influence contented themselves with the editing of classical texts, but others a little later, set out, in open contempt for dialectic scholasticism, to render classical and near contemporary medical writings into vernacular tongues. In so doing they overthrew, after a bitter struggle, the pedantry that had sterilized medicine and Science during the Dark Ages; in addition they created a body of literature which did much to stabilize the vulgar tongues of their respective countries. In England the most influential protagonist of the vernacular for medicine was Thomas Elyot, a student of Linacre; in France the movement owed its chief impetus to the group at Lyons: Champier, Canappe, Rabelais and Dolet.

I am much indebted to Dr. W. W. Francis and to Dr. Henry Viets for their painstaking perusal of the manuscript and for many valuable suggestions.

FOOTNOTES

1. OSLER, W. *The student life: A farewell address to Canadian and American medical students*, Oxford Press: H. Hart, 1905, 32 pp. Reprinted in *Canada Lancet*, Toronto, 1905, 39:121-138, *Medical News*, New York, 1905, 87:632-633. Also in *Aequanimitas, with other addresses*, London: Lewis, 2nd ed., 1906, pp. 413-443, and recently again reprinted under the title *The student life and other essays*, edited by H. H. Bashford, London: Constable, 1928, 145 pp.
2. In an anonymous editorial which appeared in the *Montreal Medical and Surgical Journal* in 1889 (vol. 17, p. 556) Holmes was asked "from which he derived the greatest satisfaction, the essay on puerperal fever, which had probably saved many more lives than any individual gynecologist, or 'The Chambered Nautilus', which had given pleasure to so many thousands". The journal reached Dr. Holmes and on January 21, 1889, he replied, "I think I will not answer the question you put me. I think oftenest of 'The Chambered Nautilus', which is a favourite poem of mine, though I wrote it myself. The essay only comes up at long intervals. The poem repeats itself in

my memory, and is very often spoken of by my correspondents in terms of more than ordinary praise. I had a savage pleasure, I confess, in handling those two professors—learned men both of them, skilful experts, but babies, as it seemed to me, in their capacity of reasoning and arguing. But in writing the poem I was filled with a better feeling—the highest state of mental exaltation and the most crystalline clairvoyance, as it seemed to me, that had ever been granted to me—I mean that lucid vision of one's thought and all forms of expression which will be at once precise and musical, which is the poet's special gift, however large or small in amount of value. There is more selfish pleasure to be had out of the poem—perhaps a nobler satisfaction from the life-saving labour." (OSLER, W. *An Alabama student and other biographical essays*, Oxford: Univ. Press, 1908, pp. 65-66.)

3. FREIND, J. *The history of physick.* 4th ed., London: 1750, part II, p. 357. "*N. Leonicenus*, the great reviver of *Greek* physick, and a famous professor at *Ferrara*, was the *first* who publish'd any thing upon this subject [syphilis]."
4. There is no satisfactory biography of Leonicenus. Many of the details concerning his life have been resurrected by Dr. Edward Streeter of Boston from original Italian source material, but unhappily he has not as yet made them public. Brief lives are to be found in N.-F.-J. ELOY'S *Dictionnaire historique de la medecine*, 1778, 3: 53-60, and in A.-J.-L. JOURDAN'S article in FRANCKOUKE'S *Dictionnaire des sciences médicales* (Biographie médicale), 1820, 6: 11-12. Details concerning the controversy following the publication of his *De Plinii et aliorum in medicina erroribus* are given in S. de RENZI'S *Storia della medicina in Italia*, 2nd ed., 1849, 2: 333-338.
5. HALLER lists the majority of Leonicenus's translations in his *Bibliotheca medicinae practicae*, 1776: 1:477-478. The most important were *Hippocratis aphorismorum, Libri VII*, Ferrara, 1509, and *Praefationes in libros Galeni à se translatos*, Venice, 1509.
6. PAYNE, J. F. See footnote 17.
7. LEONICENUS, N. *De Plinii et aliorum in medicina erroribus, ad doctissimum virum Angelum Politianum.* Ferrara, 1492, 18 l.
8. LEONICENUS, N. *Libellus de epidemia, quam vulgo morbum gallicum uocant*, Venice, 1497.
9. Full details concerning the life of Champier are to be had in M.-P. ALLUT'S *Etude biographique & bibliographique de Symphorien Champier*, Lyons, 1859, xxiv, 432 pp.
10. WILLIS, R. *Servetus and Calvin*, London, 1877, pp. 99-100.
11. CHAMPIER, S. *De medicinae claris scriptoribus*, the first of an undated volume of tracts published at Lyons by Jannot de Campis in 1506, is the earliest dictionary of medical biography in any language: it is beautifully printed 8° volume with separate foliation of individual tracts and continuous signatures. The *De medicinae claris scriptoribus* extends from f. iii to lvii; f. xii is dated Lugdunum, xvii, Januarii, Anno, MCCCCVI. The reference to Leonicenus occurs on the verso of f. xxxv and reads as follows:

"Nicolaus leonicenus vincentinus medicus latino sermoue [sic] ad perfectum instructus et disciplinis secularium litterarum gloriose imbutus. Multa dicitur composuisse opuscula. De quibus ego solum vidi subiecta videlicet. De medicorum erroribus, lib. i. De epidimia quam itali morbum gallicum. Galli vero neapolitanum vocant ad iohannem franciscum miradulensem. lib. i. viuit usque hodie ferrarie et varia conscribit."
12. RABELAIS, F. *Aphorismorum Hippocratis. Sectiones septem cæ Franc. Rabelaesi recognitione.* Lyons, Gryphius, 1532 (2nd ed., 1543).
13. Rabelais' activities as a physician and his knowledge of medicine have been analysed in some detail by the following writers: BREMOND, F. *Rabelais médecin.* Paris, 1879, 310 pp. LE DOUBLE, A.-F. *Le docteur Rabelais, Conférence faite au congrès Rabelaisien de Chinon.* Tours, 1898, 24 pp. Idem. *Rabelais anatomiste et physiologiste*, Paris, 1899, 440 pp. NIVERNOYS, A. *Rabelais chirurgien. Applications de son Glossocomion dans les fractures du fémur; et de son Syringotome dans le traitement des plaies pénétrantes de l'abdomen*, Paris, 1885, 81 pp. MOLLET, M. *Rabelais clinicien.* Paris, 1904, 59 pp.
14. CHRISTIE, R. C. *Etienne Dolet the martyr of the Renaissance, 1508-1546, a biography*, London, Macmillan, 2nd ed., 1899, 570 pp.
15. [DOLET, E.] *La maniere de bien traduire d'une langue en autre d'avantage. ..De la ponctuation de la langue Francoyse, plus des accents d'ycelle*, Lyons, 1540, 40 pp. (Edition seen, 1547.)
16. FREIND, J. *The history of physick.* 4th ed., London, 1750, part II, 400-415.
17. The most exhaustive biography of Linacre is that of John Noble JOHNSON, *The life of Thomas Linacre, Doctor in Medicine*, London, 1835, 263 pp. edited after Johnson's death by Robert Graves. (Owing to errors which reflected upon the scholarship both of the author and the editor, many copies of the book were destroyed by the editor soon after it appeared, and only a few copies are known.) J. F. PAYNE prepared an excellent brief biography (48 pp.) as an introduction to a facsimile edition of Linacre's Latin translation of Galen's *De temperamentis* (1521) reissued by the Cambridge Press in 1881. W. OSLER'S *Thomas Linacre* (Linacre Lecture, 1908), Cambridge University Press, 64 pp. is also useful. See also SANDYS' *History of classical scholarship*, 1908, vol. 2, pp. 225, xx.
18. Dr. Wm. Francis has drawn my attention to a passage in the preface to the fifth volume of the Aldine Greek Galen (editio princeps), 1525, in which Asulanus states that Linacre for some years lived in the house ('contubernuisus est') of the Aldus family.
19. There were several works which appeared from the Aldine Press prior to the Aristotle and are listed by RENOUARD (*Annales de l'imprimerie des Alde*, Paris, 1803, vol. 1, pp. 1-11) in the following order: 1. 'Constantini Lascaris Erotemata cum interpretatione latina.' [etc.] 2. 'Theodori Gazæ Introductiuæ grammatices libri quatuor.' 3. 'Theocriti Eclogae triginta.' [etc.] 4. Petri Bembi de Aetna ad Angelum Chabrielem Liber; not including one or two undated books.
20. Aldus draws attention to the care with which the edition has been executed, a circumstance which would be attested by many in Italy and in particular at Venice by "Thomas Anglicus homo & graece & latine peritissimus, prae cellensque in doctrinarum omnium disciplinis."
21. The translation of PROCLUS' *De sphæra* appeared in a collection published by Aldus in 1499 under the title *Astronomici veteres.* Linacre's rendering of Proclus was many times reprinted separately.
22. BREWER, . *Letters and papers relating to Henry VIII*, vol. 4, part III, p. 2874.
23. Full details concerning the history of Galen's treatise are given in the introduction to the present writer's *Muscular contraction and reflex control of movement*, Baltimore, 1926, 644 pp.
24. In the British Museum.
25. Englished by Dr. W. W. Francis, Librarian of the Osler Library, McGill University.
26. Canappe was a little-known physician of Lyons who has come down to us through the prefaces to his translations of medical classics printed by Etienne Dolet. They show him to have been a man of wit, courage and wide reading, and they stand as important documents in the history of French prose. After preparing this paper Streeter's charming account of Canappe and his relations with Rabelais has appeared under the title, "Education of the barber-surgeons of France,' (*Proc. Charaka Club*, N. Y., 1931, 7:82-96.) It contains much new information concerning Canappe.
27. All available information concerning the life of Elyot is included by H. H. S. Croft in the Introduction to his two-volume edition of *The Gouernour*, London, 1883. There is also an excellent brief account of him by Sidney Lee in the *Dictionary of National Biography.* His position in the history of English prose appears never to have been adequately studied or emphasized.

BREATH CONTROL IN STAMMERING*

BY SAMUEL D. ROBBINS, A.M.†

A LARGE majority of speech training systems teach the stammerer to breathe in some special manner, but few agree as to just how he shall breathe while speaking. In outlining the principles of speech training now employed at the Boston Stammerers' Institute, I shall give very briefly the reason for each exercise I use, and hope in this way to show just what I mean by proper breath control.

My first series of experiments at the Harvard University Psychological Laboratory was made to determine whether stammering is primarily of physical, or of emotional, origin. Comparative studies of shock and stammering[1] showed that stammering is accompanied by exactly the same changes in breathing and in the circulation of blood as are manifested in fright; my stammerers reacted just the same way when told they would be called upon to introduce two

*Delivered at the Symposium on Principles of Treatment of Stammering (Stuttering) held at Chicago in December, 1930, under the auspices of the American Society for the Study of Disorders of Speech.

†Robbins—Director Boston Stammerers' Institute, 1916-. For record and address of author see "This Week's Issue," page 159.

strangers in fifteen seconds as they did when a shrill whistle was suddenly blown behind a screen. This proved stammering was primarily of emotional origin, varying in severity with the emotional state of the stammerer, but manifesting certain physical symptoms, such as marked changes in breathing and in the circulation of the blood.

I next studied the effect of different forms of breathing on the cerebral circulation of a trephined stammerer[2] and found that nervous, rapid, shallow breathing and sniffing caused cerebral congestion and aggravated stammering; whereas calm, slow, fairly deep breathing lessened the flow of blood to the brain and improved the speech. In other words, the greater the cerebral congestion, the worse the stammering. By counteracting the rush of blood to the brain caused by fear or expectancy of stammering by means of calm, deep breathing, it was possible to keep the changes in the cerebral circulation of stammerers within the same limits as those of normal speakers, and to eliminate stammering.

According to the Lange James theory of the emotions, it is possible to cultivate any emotion by manufacturing at will its outward manifestations. Just as crying makes a child sadder and sadder, the longer he cries, so breathing in a calm way tends to make one composed. As a stammerer speaks best when undisturbed, a calm manner of breathing will do more than any other one thing to make it possible for him to speak without hesitancy.

It was next necessary to study how calm, normal speakers breathe when they have full control over their emotions. A study of several pneumograms traced by such subjects showed that they pause for about a second on empty lungs before breathing, that they breathe slowly, and that they never hold their breath between inhaling and exhaling. The pneumograms of the stammerers violated these important principles; they showed no relaxation pauses before breathing, the breath was often taken in quick gasps, and was frequently held. Hence I teach my pupils to pause and relax for a second on empty lungs, and to sigh a few times, if necessary, to get relaxed. Having relaxed, I ask them to breathe so slowly that they will remain free from tension.

I say little or nothing about the particular form of breathing. It matters little whether the stammerer is primarily a costal breather or an abdominal breather, or in what proportion he uses these two forms of breathing. Whether he breathes through his mouth or through his nose is of little import, so long as he breathes calmly. As a matter of fact, so few persons can breathe slowly through their mouths, I usually encourage pupils at first to breathe through their noses so slowly that they cannot hear themselves breathe; as soon as they are able to breathe slowly without this check, I let them breathe as they choose. I do not care how much breath they take so long as they do not go to the extreme of taking almost no breath, or of so overfilling their lungs that they cannot let their breath out easily.

Let us now leave the matter of breathing for a few minutes and take up my second principle. I refer to the relative importance given to vowels and to consonants by normal speakers and by stammerers.

Comparative experiments on stammering and normal speech which I conducted at the Harvard University Psychological Laboratory brought out these facts:

1. Normal speakers name the vowel of the accented syllable as the most important letter in each word; stammerers name certain consonants, usually near the beginning of the word, as the most prominent letters in these same words.

2. A careful measurement in thousandths of a second of the speech of stammerers and of normal speakers shows that stammerers unduly prolong many consonants and clip many vowels abnormally short; in general, the harder the vowel, the shorter they clip it; but a vowel is sometimes held to kill time while the next vowel is coming, just as are certain consonants.

3. Stammerers find it much more difficult to prolong vowels unduly than do normal speakers.

4. Stammerers find it much more difficult to omit initial consonants and begin each word with its first vowel pronounced as it is in the word than do normal speakers; they both slow down more than normal speakers and make a great many more errors.

These experiments show that stammerers pay relatively too much attention to consonants. When one's entire mind is concentrated on certain consonants, it is as impossible to speak the following vowel promptly as it is to multiply and divide simultaneously. The stammerer unduly prolongs an *S* or repeats a *B* not because these consonants are hard in themselves—the *B* was spoken correctly the first time and the first 1/100 part of the *S* was sufficient—but because the necessary verbal image of the vowel following these consonants was delayed in appearing. The stammerer experiences the same delay in speaking this vowel whether he unduly prolongs a consonant, repeats an explosive consonant, forces a consonant, or simply waits until he can speak. The fact that stammerers can sing and never stammer on final consonants at the ends of words also proves that their trouble is with vowels rather than with consonants, and a careful comparison of the words a given stammerer cannot speak shows what vowels are hard—usually short *e*, *i*, or *u*.

Our next problem, therefore, is to train the stammerer's attention from consonants to vowels. Having thought more about consonants in the past than the average normal speakers,

these consonants must be fully as automatic for stammerers as for normal speakers. In fact, the only way one pupil could read aloud without hesitancy was to think he omitted all initial consonants; when he did so, he put on every consonant lightly and distinctly without hesitancy, but was unable to read one word when his mind was the least bit upon a single consonant.

I give my pupils three simple attention training exercises and often give these before teaching breath control, because they can be learned in a single lesson, as breath control cannot. As all of these are unnatural, I explain that they are to be done temporarily in private, and are to be discontinued in a few weeks.

The first exercise is to read aloud and later to speak, omitting initial consonants as just described.

The second exercise is to prolong for approximately two seconds every vowel which is not silent, first in reading and then in speaking.

The third exercise is to place diacritical marks over every vowel in a given selection.

Closely connected with relative vowel and consonant lengths is the third principle of rhythm. The speech of some stammerers seems to be entirely devoid of all rhythm. Even when reading poetry, some stammerers do not accent any important syllables either by change of pitch, volume, or length. The worse one stammers, the poorer the rhythm, as a rule.

A careful examination of E. W. Scripture's[4] measurement of gramophone disc No. 6982, containing Rip Van Winkle's toast spoken by Joseph Jefferson, shows that this world-famous actor only varied his voice over an octave when asking a few direct questions; that his inflection varied gradually rather than in big and sudden changes in pitch; and that the length of vowels in a given sentence seldom varied much more than two to one in length. My stammerers violated all of these principles. When they keep within the chest register of their voices and talk in a quiet, low-pitched voice, they find they can speak comparatively well. When the voice rises in pitch and volume, they experience more trouble in speaking. I find that stammerers tend to clip accented syllables containing short vowels, and encourage my pupils to try to make these too long so that they will be of normal length when they unconsciously hurry them. When reading prose, I encourage my pupils to make accented syllables and important words of one syllable much longer than unimportant words, rather than force the important words, because forcing almost always stops the outflow of breath and interferes with rhythm.

Nothing is said about facial contortions; these disappear of themselves when the pupil is taught to speak easily. One can no more speak quickly with great effort than he can rapidly move a tense arm back and forth, or put a watch together as he would drive a railroad spike. If one is to talk quickly, he must speak easily. Until one can talk easily, he must speak slowly—not over four syllables a second on the average.

I do not advocate any method of time beating to help the stammerer to speak slowly. The stammerer wants normal, not artificial, speech. Artificial speech often seems worse to him than does stammering. In emphasizing slow breathing, I caution them not to overfill their lungs or to hold their breath even for an instant between breathing and speaking, as this would necessitate a tight closure of the glottis which might recall stammering. The instant their lungs are half to two-thirds full of fresh air, they are to start the first syllable much as they would sigh, without permitting the glottis to close entirely. They are asked to picture themselves blowing grass, so that they may imagine the vocal bands coming almost together as do the thumbs when blowing grass. They are requested, at first, to hold the first vowel about two seconds, in order to get their minds on the vowel, and to join words smoothly together without pausing between them, so that a vowel is always present for the consonants to ride upon, as a carrier wave must be present in radio for music to ride upon. The undue prolongation of the first vowel gradually disappears long before it becomes a habit and normal speech results without it being necessary to make, and then break, any intermediate habit. While they are encouraged to speak slowly—about four syllables a second—by making distinct vowels, they are told to vary the lengths of words in proportion to their importance.

By means of the pneumograph, they are able to see themselves breathe while speaking, and thus to keep a regular and uniform outflow of breath while speaking. The moment the outflow of breath diminishes or ceases, they are instructed to stop speaking at once, relax, breathe calmly, and continue from where they stopped. It is important to stop speaking before any organ of speech becomes blocked, as such relaxation prevents continued stammering, and talking in the same manner consistently hastens the acquisition of the habit of normal speech.

Stammerers must learn to think calmly and accurately at the rate they are to speak. Just as one reads inaccurately when his eye gets far ahead of the words he is reading aloud, so one gets confused in his speech when his thoughts get way ahead of his speech. It is sometimes necessary to think through a phrase silently before saying it aloud. It is desirable to use short sentences at first, and gradually to lengthen these only when thoughts are flowing regularly. It is well to stop using synonyms, whether these are used to avoid words which are difficult to say or to get just the right word to express the idea. Oral speech cannot be so accurate as

written speech which has been corrected several times; the stammerer must be satisfied with the words that first come to his mind, and, as he acquires confidence in his ability to think clearly, he will express himself more and more fluently. The moment the stammerer's thoughts become confused, he should stop speaking until they have become collected.

The breath control exercises must be varied to fit the age and the intelligence of the pupil. Young children are not taught the separate exercises F, G, and H as described in "Stammering and Its Treatment"[3], but are taught, with the help of the pneumograph, the rhythm of natural speech as a whole. Children who have just commenced to stammer are not treated directly; their parents are instructed how to speak in their presence until the child unconsciously adopts the rhythm of speech taught the older children directly. In this way, many a child has recovered from stammering in a month or two without even knowing that he had an impediment in his speech.

I have outlined the physical exercises used at the Boston Stammerers' Institute, and many of you may think we treat stammering primarily as a physical ailment.

Let me remind you, therefore, that I regard stammering primarily as a mental condition, varying in intensity with the degree of the emotion the stammerer happens to be experiencing. Any emotion which sends more blood to the stammerer's brain than a normal speaker can speak fluently under is certain to bring on stammering until the stammerer has calmed down. I employ breath control as the surest and quickest way to maintain emotional control.

But we use many other devices. As nothing succeeds like success, we make use of every good result to bring about more favorable effects. When the stammerer speaks fluently in conditions under which he used to stammer severely, we point out to him that he can surely meet successfully other situations which he has not encountered since he came to the Institute but which used to cause him less embarrassment than the difficulty he has just conquered. We encourage the stammerer to meet the easier situations first and then tackle harder and harder problems each week until he has acquired perfect confidence in his ability to speak without hesitancy to anyone, anywhere, at any time.

We overcome the subconscious fear of stammering by asking the pupil to fall asleep every night, picturing himself, and seeing and feeling himself, speaking as fluently to an old friend as would the most confident person he knows, should he walk up to the friend just before the pupil himself approached him.

Some pupils find it helpful to cultivate, just before they have to speak, an opposite emotion to that of fear, such as *hope* or *high spirits*. The moment the fear of stammering appears upon the horizon of consciousness, such a pupil lives over again emotionally some very pleasant past experience, such as making the home run that won for his team a most important game; or he imagines that some relative he cared little for has died and left him a lot of money and he plans how he will spend it.

We try in many ways to develop the personality of our pupils and to help them to overcome self-consciousness. The Pressey X-O test gives us, among other emotional traits, a list of the things about which each pupil worries. Experiments performed by Dr. George Van Ness Dearborn show that nothing relaxes the involuntary muscles like cheerfulness. One must stop worrying before he can be cheerful. He must be shown that many defects are worse than stammering, and that stammering is really not so serious a handicap as he has thought. If one does not care whether he stammers or not, he becomes less self-conscious about his stammering, and hence stammers much less often. Stammerers who have kept by themselves must be made to mix with others and to enjoy the company of others. In short, everything possible must be done to prevent mental confusion, because mental confusion brings about stammering in a person with this speech defect, just as it causes hemming and hawing or stammering in a normal speaker. The emotionalism and the personality traits of every pupil must be studied separately and the treatment varied to fit each case. The more experience I have, the more I realize that stammering is primarily an emotional problem, and that the treatment must vary widely with the individual case.

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ENDOMETRIOSIS OF THE CERVIX

Case Report

BY STEPHEN RUSHMORE, M.D.*

THE following case of endometriosis of the cervix is reported, as a careful but not exhaustive search of the literature has failed to find note of a similar case.

*Rushmore—For record and address of author see "This Week's Issue," page 159.

When the patient, aet. 26, was seen on February 9, 1931, she complained of slight brownish discharge from the vagina, of one week's duration, coming on two days after menstruation was due. No bright red blood; no pelvic pain. There had been some discomfort in right side of abdomen, under ribs, for one week. No nausea; slight indigestion; no bad-

der symptoms; bowels moving well. The patient thought she was suffering from extrauterine pregnancy and was much frightened because she said two of her friends had died recently of this condition.

The patient had been married 6½ years, and had given birth to a child in February 1927, at term; version and extraction for uterine inertia. There was a history of immediate severe postpartum hemorrhage, due (it was reported) to rupture of small artery under urethra. On about the eighteenth day of the puerperium, the patient having returned home from the hospital, there occurred a second hemorrhage, which was apparently severe, but no operation was performed. From that time the convalescence was uninterrupted. Early in 1930, the patient had been operated on, and the vermiform appendix and the right tube had been removed. Since that time the patient had been in excellent health.

Examination showed the patient to be rather thin but in excellent condition. The abdomen showed no mass or tenderness and no rigidity. On bimanual examination the uterus was perhaps slightly enlarged; no mass and no tenderness laterally. The cervix normal, parous, with slight irregularity on the right side. On inspection, no blood was seen coming from the cervical canal which looked normal. There was a small polypoid nodule to the right of the os, about ¼ inch in diameter, suggestive of a malignant growth. It was attached to the vaginal portion of the cervix but it looked like a fragment of cancer of the body detached by curette which happened to lie on the vaginal portion. From it there was coming a little dark brownish discharge. It was removed by the scissors, and sent to the laboratory. The cervix did not suggest pregnancy.

The patient was told that while a uterine pregnancy might be present, extrauterine was extremely unlikely, and advised to report at once if any untoward symptoms developed; otherwise to report in one month.

Pathologist's Report. "Specimen consists of a very tiny piece of tissue measuring 4 mm. in diameter and 6 mm. in length. It is fixed without further sectioning.

"Sections microscopically through the tissue submitted reveal a most unusual appearance. There are numerous glandular structures characteristic of endometrial glands which have become quite hyperplastic and have somewhat the appearance of glands seen during pregnancy. The tissue adjacent to the glandular structures contains numerous large cells which have the appearance of decidual cells. On the surface of the tissue there is some stratified epithelium which has the appearance of the epithelium seen in the cervix. This piece of tissue is apparently an endometrial transplant. It shows none of the characteristics of malignancy.

"Diagnosis: Endometrial transplant (pregnancy)."

February 27, 1931. The patient returned, as the bleeding had continued and was occasionally worse. Constantly uncomfortable; occasional pain in the right side, especially on coughing. Also some pain under left ribs. Sense of pressure and discomfort in pelvis. No nausea or vomiting, but patient quite uncomfortable after eating.

Examination shows patient to be in excellent general condition. There is an indefinite mass in lower abdomen rising out of the pelvis, not clearly outlined but perhaps size of 2½ to 3 months' pregnancy. On vaginal examination, there is found some dark bloodstained discharge. The growth on the cervix is two or three times as large as before the first removal and is bleeding slightly. Cervix and vagina congested as of early pregnancy. The uterus enlarged somewhat but on the right side is a soft mass about 2 inches in diameter, suggestive of a myoma projecting into the broad ligament or a mass outside of the uterus attached intimately to it. Operation was advised and was performed on March 3, 1931, on account of the marked and unexplained change in the uterus; although the tentative diagnosis of extrauterine pregnancy had been put forth, no definite diagnosis was made before operation. Some aberration of pregnancy, possibly malignant, was suspected. The endometrial implant was excised giving adequate margin. The uterus was then curetted, only normal tissue of an early pregnancy being obtained. The uterine cavity was distinctly larger than was expected. The abdomen was then opened. There were found some adhesions of the omentum to the anterior abdominal wall. The upper abdomen was normal. The uterus was about the size of a three months' pregnancy, showing a very broad fundus which had a slight median depression, early stage of bicornuate development. The right cornu was slightly larger than the left, and apparently the pregnancy had been developing more on the right than on the left side. The ovaries were normal as was the left tube. There was no evidence of extrauterine pregnancy or of a growth into the right broad ligament. The abdomen was closed and the patient had an uninterrupted convalescence and has remained well since.

Comment. It seems probable that at the time of the first confinement some of the loosened endometrium became attached in the laceration of the cervix, and during the ensuing pregnancy underwent normal hypertrophy. It is not clear why bleeding occurred from the displaced tissue. The polypoid nodule was separated from the normal appearing lining of the cervical canal by what seemed to be normal scar tissue of the cervical tear.

Reference to the literature of endometriosis shows that displaced endometrium may be found in almost any part of the uterus or its so-called appendages. In a certain number of cases, gross trauma may reasonably be regarded as the factor in causing the transplantation. In response to the stimulus of substances in the circulating blood, the displaced fragments have often shown the physiological reactions of normally situated endometrium. The case herewith reported is of an endometrial transplant to the vaginal portion of the cervix, probably due to the trauma of operative delivery, which transplant suggested by its hypertrophy and bleeding in pregnancy a malignant change in the cervix, and by its association with unsuspected bicornuate uterus, suggested malignant disease in the uterus.

CONGENITAL DEXTROCARDIA; AN APPARENTLY UNIQUE CASE*

BY WILLIAM D. REID, M.D.†

CASES of dextrocardia may be classified as follows:

1. Acquired
2. Congenital
   A. Mirror image.
      (a.) With transposition of other viscera.
      (b.) Without transposition of other viscera.
   B. Non-mirror image.

The non-mirror image type, in which the heart chambers are not transposed, but the organ remains at the right side of the sternum, in the position occupied by it in early embryonic life, is much the rarest in occurrence. Recognition of this type of congenital dextrocardia has been considered to be important in that, according to an authority[1] on congenital malformations of the heart, it is a "much graver condition from the clinical standpoint. . . . As a result of the very early arrest, grave complex anomalies are always associated with this type of dextrocardia, and the cases fall on this account into the cyanotic group". Some of these other malformations are reversed torsion of the arterial trunks and complete defects of the cardiac septa (cor biloculare).

In a patient recently treated in our hospital there was present congenital dextrocardia of the non-mirror image type but *without* other congenital malformations. Since the findings break the rule quoted for the writings of Maude Abbott, it appears desirable to record our case in medical literature.

CASE REPORT

A gardener, aged 43 years, entered the Massachusetts Memorial Hospitals, December 12, 1930, with the chief complaint of shortness of breath and a sensation of weight in the chest.

Present illness: There had been increasing difficulty in breathing for the past five to six months. The initial symptoms were a "tight feeling over the right shoulder", and dyspnea on exertion. Slight swelling of the ankles appeared two days previous to entry. He had been in bed part of the time during the previous few weeks. Attacks of palpitation had occurred occasionally. Weight 138 lbs.; no recent loss.

Past history: He had had pneumonia three times, the last attack occurring eighteen years ago, with apparently complete recovery. He was refused in the draft for the World War, because of something wrong with his heart; he was told it was misplaced to the right. He tried farming, at the age of thirty years, but was unable to stand the physical work as well as the average.

Physical examination: Well developed man, sitting up in bed, moderately dyspneic, showing slight general cyanosis. Carotid pulsations abnormally feeble; radial pulses of small volume and low tension. Blood pressure 102/96. Supracardiac dulness increased, especially to the right; left border of deep cardiac dulness 2 cm. to left of midsternal line, right border 2 cm. to right of right nipple line. No thrill. Impulse easily palpable over area just inside and lateral to the right nipple line, where it was maximal. There was a split first sound followed by a systolic murmur at the apex; a much less audible systolic murmur was present over the base and transmitted to the right clavicle. Aortic second sound just audible; no diastolic murmur detected.

Abdomen distended, slight fluid wave in dependent portion. Liver not palpable. Moderate soft edema of legs.

The remainder of the physical examination and history gave no data of significance.

Laboratory findings: Blood morphology and chemistry, normal; Wassermann and Kahn reactions negative. Urine: specific gravity 1.010-1.019; albumen, slight trace to slightest possible trace; a few hyaline casts; otherwise normal.

Roentgen ray examination: Dextroposition of the heart, which was somewhat enlarged. No evidence of transposition of other organs. Fluoroscopic study showed the cardiac apex to be under the sternum rather than at the right side of the cardiac shadow. Mediastinum and lungs normal.

Electrocardiogram: Normal rhythm; rate 106; P-R interval 0.14 second; Q.R.S. 0.08 second; P_2 0.2 millivolt and 0.06 second; slight left axis deviation; angle measures—10 degrees; T_1 and T_2 definitely inverted; S-T interval non-isoelectric in all leads. Opinion: The absence of inversion of all waves in lead I shows this not to be a case of congenital dextrocardia of the mirror image type. The details of the T waves and the S-T interval are consistent with either coronary occlusion or preponderant left ventricular strain. The deviation of the electrical axis is of uncertain significance, especially since this heart is abnormally located.

Subsequent history: There was moderate improvement,—chiefly less dyspnea, for a few days, but after this the patient showed more evidence of congestive heart failure and died on December 27, 1930.

Report on postmortem examination by Dr. C. F. Branch.

"Pathologic diagnoses: Hypertrophy and dilation of heart; aortic stenosis; congenital dextrocardia; hydrothorax; healed pleuritis: hypostatic congestion; pulmonary thrombosis; chronic passive congestion of spleen, liver, kidneys and other dependent organs; edema; and ascites.

The right pleural cavity is completely obliterated by old fibrous adhesions between the parietal and visceral pleura.

The pericardial cavity contains no abnormal fluid or adhesions.

Heart weight 785 grams; measures 17 x 13 x 7.5 cms. Heart lies to the right side of the midline with the right ventricle uppermost. The apex is at the fifth rib and 1 cm. to the left of the midline. The lower margin forms a straight line parallel with the transverse axis of the body. The base of the heart, as outlined by the superior vena cava and the ascending aorta, lies at the second rib, approximately 2 cms. to the right of the nipple line. The aorta arches upward and bends in a normal fashion and in normal relationship to the surrounding vessels. The vena cava and the pulmonary veins and artery lie in their normal relationship to each other. Epicardium smooth and glistening; shows occasional ir-

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regular areas of thin, white, fibrous thickening. Myocardium firm, dark red-brown in color. The right ventricle is markedly dilated. The right auricle is moderately dilated. The endocardium is smooth and glistening. Valves essentially negative, with the exception of the aortic. The aortic valve is irregularly contracted, firmly sclerosed, and nonpliable. The cusps are represented by two short, irregular, fibrous and calcified bundles, approximately 8 mms. in height, by 5 mms. in thickness, over which the endocardium is smooth and glistening. The left posterior cusp is almost completely absent and is represented only by a mound of tissue similar to that above noted, forming the walls of the two remaining cusps. The coronary arteries are soft and patulous. Foramen ovale open but covered by a functional membrane. Valve measurements: tricuspid 13.8 cms., pulmonic 8.0 cm., mitral 10.5 cms., aortic 6.0 cms.; left ventricular wall 1.4 cms., right ventricular wall 0.5 cms.

Aorta essentially negative throughout its entire course, except for a very few small, scattered atheromatous plaques, in the region of the arch."

DISCUSSION

The roentgen plate confirmed the clinical diagnosis of dextrocardia and by means of the fluoroscope it was disclosed that the cardiac apex was located in its normal relationship to the remainder of the heart rather than to the right, as in the mirror image type of dextrocardia. The electrocardiogram refuted the clinical assumption of this latter type of congenital dextrocardia. One cardiac consultant was for, and another against, the presence of coronary occlusion. The wisdom of caution in making the diagnosis of coronary occlusion solely on the basis of the electrocardiographic findings is again borne out by the necropsy findings. I am ready to admit, however, that in this patient the high degree of cardiac insufficiency, with the absence of a recognizable cause, made a presumptive diagnosis of coronary occlusion more probable. Both cardiologists specifically sought for evidence of aortic stenosis but failed to find sufficient to warrant the diagnosis. The pathologist was convinced that the changes in the aortic valve were acquired rather than congenital. They may have been related to one of the attacks of pneumonia or remain of unknown origin.

It may be questioned if the dextroposition of the heart in this patient was really of congenital origin or acquired by the adhesions in the right pleural cavity. Dr. Branch considered this point carefully and decided that the dextrocardia was congenital and not due to the adhesions.

SUMMARY

A case is reported of congenital dextrocardia of the non-mirror image type and acquired stenosis of the aortic valve.

The case appears to be unique in that this type of congenital dextrocardia occurred without other congenital malformations of the heart.

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DEATHRATE FROM GASTRIC AND DUODENAL ULCERS

In 1930, the highest deathrate on record for ulcers of the stomach and duodenum was experienced among male Industrial policyholders of the Metropolitan Life Insurance Company. This high point was reached after a gradual, definite rise year after year since 1921. The mortality among females, at all ages combined, seems to have been decreasing since 1921.

If we compare average deathrates for the three years, 1927 to 1930, with those for 1921 to 1923, we find an increase in peptic ulcer mortality of 38.5 per cent. for white males and of 22.7 per cent. for colored males. For the same two periods, there was a *decline* of 8.3 per cent. for white females and of 6.8 per cent. for colored females.

Among white males, the increases are pronounced at each of the age periods beyond age 20, when deaths from this disease become numerically significant. Beyond age 45, where the deathrate from ulcers of the stomach and duodenum ranges currently between 20 and 30 deaths per 100,000 per annum, the deathrate for the years 1927 to 1930 was from 42 to 77 per cent. higher than in the earlier period 1921 to 1923. Among colored males, the increases in the deathrate are somewhat irregular in adult and later life, because of the smaller number of lives exposed to risk, but there is strong intimation that there has been among these males also an increasing deathrate. For white females, decreases in the deathrate are general at all age periods, except between 45 and 54 years of age, where a 9.6 per cent. increase was recorded. Colored females showed decreased mortality when all ages combined are considered, but this favorable record is limited largely to the younger ages, below 35. Between 35 and 64 years for colored females, there were increases in the deathrate.

AIDS JOHNS HOPKINS

Baltimore, June 15.—Colonel and Mrs. Charles A. Lindbergh, Booth Tarkington, Dr. Abraham Flexner and Mrs. William D. Hamilton have been added to the board of trustees of the William Holland Wilmer Ophthalmological Institute of the Johns Hopkins Medical School, according to a recent announcement.

It also disclosed that Dr. Wilmer, who gave up a private practice in Washington to assume charge of the institute, has contributed $125,000 in the form of fees collected from patients whom he has treated since the institute was opened.

Colonel and Mrs. Lindbergh are friends of Dr. and Mrs. Wilmer. Mr. Tarkington has been a patient at the institute. It was also announced that the institute was in need of an additional $1,000,000 endowment.—*The New York Times.*

CASE RECORDS
of the
MASSACHUSETTS GENERAL HOSPITAL

ANTE-MORTEM AND POST-MORTEM RECORDS AS USED IN WEEKLY CLINICAL-PATHOLOGIC EXERCISES

EDITED BY RICHARD C. CABOT, M.D.
F. M. PAINTER, A.B., ASSISTANT EDITOR

CASE 17291*

FOUR MONTHS' PAIN IN THE LEGS AND FIVE DAYS' EDEMA BELOW THE WAIST

MEDICAL DEPARTMENT

PRESENTATION OF CASE

DR. EARLE M. CHAPMAN**: This is the case of a seventy-one year old single colored woman who came into the Emergency Ward on the evening of April 8.

The history we obtained from her at that time was rather vague, but it seems that she had not been well for some months past. About four months before entrance she had rheumatism—pains and aches in the joints of the extremities,—and had gone to a doctor who gave her capsules to take. She took them faithfully, but they turned out to be "diarrhea medicine," so she stopped them after a few weeks. She had been doing housework and feeling quite well except for this rheumatism, diarrhea and some weakness until five days before entrance, when she noticed that her legs were swollen. In spite of this she kept on working until the day of admission.

The past history is negative except that she said she was very "nervous".

Her history was inadequate, but further attempts at that time to get a history from the people for whom she worked failed.

Physical examination showed a short, stout colored woman, quite old and very edematous from the midriff down. There was pitting edema from the sacrum to the midback. The legs were swollen tight. The sclerae showed the slightest tint of jaundice. Examination of the heart showed that it seemed to be pushed upward and to the left by the ascites. The action was rapid, about 110 at entrance, the rhythm regular, the sounds of poor quality. The pulmonic second was greater than the aortic second. The blood pressure was 160/100. The lungs showed a few râles at the bases. She was lying perfectly flat in bed with all that edema, yet there was very little dyspnea and she was talking steadily. She seemed perfectly comfortable whether sitting up or lying down. The rest of the examination was not remarkable. Palpation of the abdomen was not satisfactory because of the amount of fluid.

Laboratory examination at entrance showed the urine to be essentially normal. There was no albumin, a high specific gravity and no cells. The red blood cell count was 4,300,000, the white cell count 5,300. The non-protein nitrogen was 26. A Hinton test was negative. An examination of the stool was essentially negative.

X-ray examination showed the diaphragm unusually high on both sides. The left costophrenic angle was obliterated by the diaphragm. There was probably slight cardiac enlargement (total transverse measurement 10.5, great vessels 5.2, chest 25). The shape of the heart was not remarkable. There was some tortuosity of the aorta. The lung fields were clear. It was thought that the high position of the diaphragm might be due to distention of the abdomen.

At the time of admission we thought that she probably had arteriosclerotic heart disease with congestive failure and that the prognosis was fairly good. We expected her to respond to treatment with rest and digitalis. For two days she was quite comfortable. There was no increase in the urinary output, but we did not give diuretics. Small doses of digitalis were given because the pulse rate remained rather low. We feared then there was something in this case that we might be missing, as the pulse rate was slow after the first day and it seemed peculiar that she could lie so flat in bed with all that edema.

She began to have diarrhea and abdominal pains and aches and was apprehensive of death, insisting that she was going to die. We did not take her word for it. There was slight diuresis before death, though it does not show on the chart because the output was unmeasured when she was making frequent lavatory trips because of the diarrhea. The fourth night after entry she became suddenly worse, went into shock, and the next morning died.

CLINICAL DISCUSSION

BY RICHARD C. CABOT, M.D., GEORGE W. HOLMES, M.D., AND TRACY B. MALLORY, M.D.

NOTES ON THE HISTORY

DR. CABOT: I wish we could have had a chance to investigate that question of nervousness. One of the striking things about the Negro race is that they are much less nervous than any white race I know. I have never seen a nervous Negro. Of course people use that word to mean all sorts of things. It may have meant that she liked to keep moving.

NOTES ON THE PHYSICAL EXAMINATION

"The slightest tint of jaundice" in the sclerae of a Negress is a brave diagnosis. It is very hard to tell slight jaundice in a colored person's sclerae.

Everything is negative so far except the blood

*This report gives the essentials of two discussions, one in Dr. Cabot's Third Year class, one at a conference of the hospital staff.

**Recently senior interne on the West Medical service.

pressure and the heart. Do those heart measurements spell enlargement, Dr. Holmes?

DR. HOLMES: I think not. They may. In such a shaped chest as that of course the x-ray measurements would be inaccurate. The apex and part of the left side of the heart are hidden by the diaphragm on the left side, but from the general shape of the heart one would expect the curve to continue on in that direction and it probably would not be enlarged.

DR. CABOT: Where did they measure that 10.6, do you think?

DR. HOLMES: They measured where the heart shadow disappeared below the diaphragm shadow.

DR. CABOT: That accounts for it, doesn't it?

DR. HOLMES: I should doubt if the heart was enlarged at all. With the diaphragm as high as that the heart would be tipped up and appear larger than it is. The main thing is that it is a very high diaphragm on both sides. There is nothing in the chest to explain it.

DR. CABOT: Dr. Holmes has not helped us out so much as I hoped he would. She had high edema. We are looking for a big heart in connection with hypertension to explain the poor circulation.

DR. HOLMES: She should have shown evidence of edema of the lungs if she had had heart failure.

DR. CABOT: We shall have to let Dr. Mallory tell us the facts without any diagnosis that I can make.

DR. MALLORY: There is one fact which does not appear in your record but which the house officer mentioned to me, and that was that she was able to lie perfectly comfortably flat in bed.*

DR. CABOT: That backs up what Dr. Holmes said about absence of congestion of the lungs. That is one of the first places where congestion shows.

DIFFERENTIAL DIAGNOSIS

I am all adrift from my first diagnosis. I do not see how we can call it hypertensive heart trouble. We have two things to look for, first an underlying cause which has been going on four months or so, and secondly the immediate cause of death. For the first I think we have to look below the diaphragm. The abdomen and legs are swollen. What is there that can cause that? Excluding cardiac and renal disease we have liver disease and peritoneal or glandular disease (cancer or tuberculosis) around the root of the mesentery. I do not know why she may not have cirrhosis of the liver. She has ascites. We do not need to have any other evidence of portal congestion. If it is not that, it is likely to be malignant disease as far as I can see, but I am surprised to get no pain or evidence of metastases. So I do not think I can make any better guess than cirrhosis of the liver as the main cause of death.

That however does not account at all for the immediate cause of death. We can certainly make some guesses as to that. She is seventy-one years old. Most women who die at seventy-one die of arteriosclerosis in some of its forms or of pneumonia or of malignant disease. We certainly have no evidence of pneumonia and only a very slight suggestion of malignant disease. I feel as if some result of arteriosclerosis, a vascular complication, must be the cause of her death. The two things that come to mind are pulmonary embolism and cardiac infarction. She has had no operation, so I think cardiac infarction seems a little more probable, though the fact that there was no cardiac pain at any time makes me hesitate to make any such diagnosis. Cerebral hemorrhage of course is perfectly conceivable, but there is not a thing to indicate it. So I feel very dubious about the immediate cause of death. I should be willing to say it is probably vascular. I cannot be any more definite. I do not feel at all clear about this diagnosis of cirrhosis of the liver. I should like to hear some guesses from someone else.

A STUDENT: Hypertensive cardiovascular disease?

DR. CABOT: It seems to me that will not do. She could lie perfectly flat. She had no edema of the lungs. We cannot say that she died a death of passive congestion. This trouble seems to be altogether below the waist.

A STUDENT: Do you think it could be aneurysm of the lower aorta?

DR. CABOT: I do not believe so. I have never seen it without pain or tumor.

A STUDENT: It might explain the edema.

DR. CABOT: Only if she had some secondary thrombosis. Aneurysm does not ordinarily produce edema or ascites. Pressure signs and sometimes perforation are the local evidence. She had such a big belly that there may have been aneurysm behind there without their being able to feel it. But I do not see how we can say that is anything more than a bare possibility. We generally have some complaint of it in the abdomen. Unless an abdominal aneurysm were to break we could not thus account for her sudden death, and we have no evidence of rupture.

A STUDENT: In the absence of a diagnosis of hypertension would not the high blood pressure and the sense of nervousness be indications of cerebral hemorrhage?

DR. CABOT: I should not say so. Of course cerebral hemorrhage without brain symptoms is possible if the blood goes into the ventricles or frontal lobes. That is a conceivable diagnosis. I do not think however that it is generally quite so sudden as this sounds. There generally is something to call people's attention to the brain before the patient actually dies. I believe this is a cardiac death, but that is only a guess.

*This point was omitted in the history as Dr. Cabot had it.

CLINICAL DIAGNOSES (FROM HOSPITAL RECORD)

Arteriosclerosis, generalized.
Arteriosclerotic heart disease with congestive failure, right heart failure.

DR. RICHARD C. CABOT'S DIAGNOSES

Cirrhosis of the liver.
Terminal vascular complication, cardiac.

ANATOMIC DIAGNOSES

Acute yellow atrophy of the liver.
Collapse of the lungs.
Dermoid cyst of the ovary.

PATHOLOGIC DISCUSSION

DR. TRACY B. MALLORY: The autopsy was quite a complete surprise. The case had been very blind. We found acute yellow atrophy. The liver weighed only 800 grams, of which at least 500 consisted of large irregular yellow nodules of actively regenerating liver tissue. The remaining 300 grams consisted of depressed red very vascular early scar tissue. The heart weighed only 275 grams. The lungs were negative except for some collapse. She had a small dermoid cyst in the ovary and that was all.

Following the autopsy, knowing it was acute yellow atrophy we got interested in the possibility that a drug might have something to do with the case.

DR. CHAPMAN: We made inquiries, and I just received a telephone message from the patient's doctor, who said that she did present herself in his office several months ago. He prescribed a general hygiene of rest and diet and gave her "farastan". The patient took "capsules", so she took more than one daily. I do not know how long she had been taking this medicine; probably over several weeks' time.

DR. MALLORY: What is this "farastan"?

DR. WALTER BAUER: Farastan is a trade name for mono-iodocinchophen. I think this case illustrates how careful we should be in prescribing the various antirheumatic drugs which can now be obtained on the market under various trade names. Many of these antirheumatic drugs contain cinchophen, and yet one may have no knowledge of this fact. One should never prescribe any of the cinchophen compounds for a patient who gives a history suggestive of previous liver disease such as catarrhal jaundice, cirrhosis and the like. The reason why more cases of acute yellow atrophy are reported following the use of the various cinchophen compounds is that they are being very widely used. It is well when prescribing cinchophen for relief of pain in people with rheumatic diseases to alternate cinchophen with some other drug such as pyramidon or sodium salicylate. In this manner they would receive cinchophen one week, sodium salicylate the second week and perhaps pyramidon the third week.

DR. MALLORY: There is an ever increasing number of cases of acute yellow atrophy being reported following the use of cinchophen compounds of one sort or another. At the recent pathological meeting in Cleveland two groups of half a dozen cases each were reported, and ten other people at the discussion mentioned cases that they had seen. The clinical evidence of those cases seems to show beyond question that in human beings cinchophen may cause extensive necrosis of the liver and death. In animals it has not been possible to produce atrophy even with large doses of cinchophen. However, drug toxicity varies so greatly in different species of animals that negative experiments mean comparatively little.

DR. CHESTER M. JONES: This case is interesting. I think it is the second case we have had this year of acute yellow atrophy without jaundice. There was apparently no jaundice. I recently had a case of very diffuse liver infection with no jaundice whatever, an unusual condition. We have had in the past two years four or five cases of acute yellow atrophy with ascites as the presenting symptom. I think it is sometimes overlooked that ascites and possibly pain may be the important symptoms in this acute condition.

DR. FULLER ALBRIGHT: Don't you think it is very unusual to have sudden death of this type in acute yellow atrophy?

DR. MALLORY: Yes.

DR. ALBRIGHT: She showed a few subendothelial hemorrhages in the myocardium.

DR. MALLORY: I have seen them so often in varied conditions that I can not attribute much significance to them.

DR. HOLMES: It would be very unlikely that a patient would have such an appearance as that of the chest by x-ray and be dying of a failing heart. The heart shadow is normal and there are no changes whatever in the lungs. Perhaps we should have emphasized that point more than we did.

DR. CABOT: Have you anything more to say, Dr. Mallory, as to the immediate cause of death?

DR. MALLORY: No. She certainly cannot have had for long even such hypertension as our one blood pressure reading suggests with a heart so small.

CASE 17292

SUDDEN DEATH IN A PREMATURE INFANT

CHILDREN'S MEDICAL DEPARTMENT

PRESENTATION OF CASE

DR. BRIANT L. DECKER*: A baby girl seven hours old was admitted to the hospital on the

*Recently interne on the Children's Medical service.

morning of March 16. She was the second of twins. Delivery was by breech presentation. Both infants were born spontaneously and breathed immediately with good cry and no cyanosis. The birth weight of the patient was three pounds four ounces. The sister was admitted at the same time. She had weighed four pounds four ounces at birth and was a well nourished premature infant. Physical examination in her case later was negative except for a draining right ear and a slight jaundice. They were the first children of healthy parents.

Physical examination of the patient revealed a small, obviously premature baby whose nutrition was good for its size. The skin appeared red, as is usual in premature children. Because the temperature was subnormal (96°) complete physical examination was not done. Chest examination revealed a normal heart and breath sounds with no dullness on percussion. There were no gross abnormalities.

No laboratory work was done.

Course in the hospital. The child was immediately put into a Morgenthaler bed. The temperature quickly reached normal. For a short time the next afternoon it was 101°. It fell, however, to 99° and remained normal. On the evening of the day of admission the child began to take both breast milk and water well. This she continued to do. On two occasions during the afternoon of the day after admission she had momentary attacks of cyanosis and difficulty in breathing, relieved by suspending her by the feet. That night she was observed to be breathing satisfactorily until she was found in another attack of cyanosis and apnea. This time artificial respiration and stimulants (caffein) were of no avail, the child dying within a few minutes.

Clinical Discussion

Dr. Richard S. Eustis: I do not believe it will be possible to come to a satisfactory diagnosis of the cause of death from the information we have.

This infant was the smaller of twins, but weighed over three pounds. She was born without difficulty and was in good condition at birth, breathing normally. In other words she apparently had a good start in life. The baby was chilled somewhat on reaching the hospital. That however should not be enough to cause death twenty-four or thirty-six hours later.

In the hospital the baby acted fairly well. She sucked the bottle and retained food. The temperature returned to normal. She did well until she became cyanotic.

Cyanosis is frequently a presenting symptom of sickness in young full-term infants or in premature infants. There are many causes of cyanosis. It is sometimes almost impossible to distinguish between them. Among the commonest causes in prematurity is some hemorrhage inside the skull, either traumatic or from asphyxia or from hemorrhagic disease of the newborn. We have no evidence here in the history or on physical examination of any intracranial hemorrhage. Nevertheless I feel that we cannot exclude it, because I have seen too many autopsies which showed either a single fairly large hemorrhage or multiple petechial hemorrhages in cases that before death showed no intracranial symptoms.

Another cause of cyanosis is congenital heart disease. If the baby had lived to be several weeks old and had shown no heart murmurs, no enlargement, no change in the force of the beat, I should feel that we could exclude it. But dying as soon as this, I know that the murmurs may not have appeared and I feel that although that baby's chest was examined fairly closely, evidence of congenital heart disease may have been missed.

Furthermore we cannot exclude infection, very possibly a pneumonia. I have seen the most astounding things postmortem that nobody had suspected during life. Babies may die at this age with a perfectly definite consolidation but no symptoms of infection. In the newborn period and particularly in premature infants infection does not necessarily cause a febrile reaction. We have learned to look for infection in premature infants as soon as they fail to do well, not waiting for a septic temperature or even an elevated temperature. In fact, elevated temperature is more apt to mean that the baby is being overheated than it is to mean infection.

The child was discharged with a diagnosis of atelectasis. If there were any appreciable amount, any large spot of atelectasis, it should have been discovered on physical examination. Furthermore if there were any appreciable amount of atelectasis we should have had symptoms of cyanosis from the beginning instead of cyanosis developing later on. We may find atelectasis present, but I do not believe that it will prove to be the sole cause of death. I think we are more likely to find small intracranial hemorrhages or infection.

Furthermore it must be admitted that there are occasional premature infants who die of prematurity, cases where we cannot find any particular organ or system of organs broken down, but where the whole infant is unfitted to survive and a diagnosis of prematurity is justified.

I should put as first choice intracranial hemorrhage, as second choice infection, knowing perfectly well that I may be absolutely wrong in both diagnoses.

CLINICAL DIAGNOSES (FROM HOSPITAL RECORD).

Prematurity.
Atelectasis.
Cerebral hemorrhage?

ANATOMIC DIAGNOSES

Prematurity.
Atelectasis of the lungs.
Pneumonia.
Intracranial hemorrhages.

PATHOLOGIC DISCUSSION

DR. TRACY B. MALLORY: We found at autopsy three lesions of potential significance. Exactly which was the cause of death I am sure I do not know.

The lungs showed a very considerable degree of atelectasis, quite diffuse and rather uniformly scattered throughout the lungs; that is, there was some air in every lobe but not a great deal in any lobe. The impression it gave was that of a lung that had never completely expanded. All of these areas were fairly dark red, but did not feel consolidated. I was rash enough to say on the gross examination that I did not think there was any pneumonia. It turned out that I was wrong. Microscopically there was definite pneumonia. That is probably the most important of the various things we found.

The head showed several very small hemorrhages. There was one found just beneath the temporal lobe. There was a little free blood in the subtentorial space, and the tentorium itself showed a number of petechial hemorrhages scattered through it. That is the commonest spot in which one can demonstrate lesions due to the trauma of birth.

The weight of the thymus was within normal limits. Its length and breadth were normal, but it seemed to me a little thicker than is usual. It may possibly have exerted a little pressure on the trachea, though such conclusions rest on very insecure footing.

The liver showed foci of hematopoiesis, which is of course a normal finding in premature babies. Sometimes one finds it even in full-term infants.

DR. EUSTIS: Have you any choice as to which you would put first as the cause of death?

DR. MALLORY: I do not think I have. I think the pneumonia was the immediate cause of death, though it hardly seems like a sufficient amount of pneumonia to kill an otherwise normal child. In itself the intracranial hemorrhage ought not to have interfered with respiration. Although most of what we found was subtentorial, it was so slight that I should hardly think the medulla would have been affected.

DR. EUSTIS: Then the underlying cause of death is prematurity, with atelectasis and pneumonia as a result of that, and it is possible that oxygen and carbon dioxide inhalations would have expanded those lungs and prevented the pneumonia?

DR. MALLORY: Yes, I think that probably follows.

DR. JAMES H. MEANS: Is there a type of pneumonia definitely associated with unexpanded lungs in newly born infants?

DR. MALLORY: Not so far as I know.

DR. HAROLD L. HIGGINS: When this child died so suddenly, the twin sister was given several treatments with oxygen and carbon dioxide to prevent a similar occurrence.

DR. MALLORY: I think one could certainly say that with a larger respiratory surface this child would have had a much better chance of survival.

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NOMINATION TO THE STATE BOARD OF REGISTRATION

DR. JAMES J. LAWLOR of Cambridge, according to press announcements, has been nominated by Governor Ely to the State Board of Registration in Medicine to succeed Dr. Frank M. Vaughan, secretary of the board, whose term has expired. The name of Dr. Lawlor will come before the Governor's Council on July 22 for confirmation.

Dr. Lawlor, who was born in Danvers in 1894, was graduated from the Middlesex College of Medicine and Surgery in 1920 and was for three years chief surgeon of the Middlesex Hospital in Cambridge, resigning that post last January. The Massachusetts Medical Society offers no candidate for the vacancy, but does offer certain facts which must be considered.

The Middlesex College of Medicine and Surgery is rated by the American Medical Association as a Class C school, and its diploma is recognized by the licensing boards of only a small minority of the states. Even if this fact alone does not constitute a disqualification, it is certainly sufficient to raise doubts as to the wisdom of such an appointment.

The opportunity arises again, moreover, to protest against a superannuated law which greatly limits the appointive power in these cases. As at present constituted the Board of Registration of seven members is limited to three members from any one medical society, and since the vast majority of the State's reputable physicians are now members of the Massachusetts Medical Society, the eligibility requirements of which are only a degree from a recognized medical school, evidence of good moral character and the ability to pass an examination, four positions must be filled from outside its ranks. Satisfactory appointments to these four positions may be extremely difficult to make, and in the past acceptable candidates for them have been obliged to relinquish their membership in the Society in order to become eligible. It is obvious that the time is overripe for a reorganization of the board so that modern conditions may be met and the medical practice requirements of the State raised to the highest possible level.

The Board of Registration in Medicine occupies an exceedingly important position in the State's governmental machinery. Its powers should be clearly defined and fairly exercised, and its membership selected from the best and most representative types of physicians. It can be of incalculable value in establishing and maintaining a high grade of medical practice, and the Massachusetts Medical Society, whose aims and ideals are identical, can be of invaluable assistance to the board in the performance of its functions. Their labors should be mutually reciprocal and the advance of ethical medicine in this state can be as much promoted by harmonious accord between the two as it can be hampered by mutual discord and distrust.

THE EARLY MEDICAL HUMANISTS

THE paper in this number of the *Journal* by Professor John F. Fulton, Sterling Professor of Physiology in Yale University, on the early medical humanists is a striking contribution to medical history. He has chosen to depict the life and works of three of the large group of physicians who "ripened their time"—to use the Cushing phrase—when the new spirit of the Renaissance was just making itself perceptible in the medical profession. In addition to Leonicenus, Linacre and Elyot, one should recall a longer list: Champier, Fernel, Fracastorius, Gonthier, Caius, J. Sylvius, Brasavola, Fuchsius, Matthiolus and Conrad Gesner, as noted by Osler[1]. All took the old humanities, as Latin and Greek were called, as a basis for study and, although many were physicians of note, literature and natural history were as much part of their lives as the practice of medi-

cine. They were "cultivated gentlemen" and, of the group, Conrad Gesner, perhaps, best exemplified the spirit of the time. A fine tribute to Gesner's memory was written many years ago by Henry Morley in his 'Life of Jerome Cardan':

"Conrad Gesner who kept open house for all learned men who came into his neighbourhood was not only the best naturalist among the scholars of his day but of all men of that century he was the pattern man of letters. He was faultless in private life, assiduous in study, diligent in maintaining correspondence and good will with learned men in all countries, hospitable—though his means were small—to every scholar that came into Zurich. Prompt to serve all, he was an editor of other men's volumes, a writer of prefaces for friends, a suggestor to young writers of books in which they might engage themselves, and a great helper to them in the progress of their work. But still, while finding time for services to other men, he could produce as much out of his own study as though he had no part in the life beyond its walls."

The great influence of men of this type, as Professor Fulton points out, certainly has been underestimated in the past. They played "an active part in promoting the New Learning" and the medical profession has a right to take pride in these forerunners of humanism and the work which they accomplished.

1 The Evolution of Modern Medicine. New Haven, 1921.

THIS WEEK'S ISSUE

CONTAINS articles by the following named authors:

BROOKE, PERCY A. M.D. Harvard 1926. Assistant physician, Worcester City Hospital, Worcester, Mass. Address: 477 Cambridge Street, Worcester, Mass. Associated with him is:

GOODALE, RAYMOND H. M.D. Harvard 1924. Resident Pathologist Worcester City Hospital, Worcester, Mass. Address: Worcester City Hospital, Worcester, Mass. Their subject is: "Amoebic Dysentery in Massachusetts. Report of Five Cases." Page 130.

WARREN, SHIELDS. A.B., M.D. Harvard 1923. Pathologist, New England Deaconess, New England Baptist, Collis P. Huntington Memorial and Robert B. Brigham Hospitals. Instructor in Pathology, Harvard Medical School. Address: 195 Pilgrim Road, Boston. Associated with him is:

NISSEN, H. ARCHIBALD. A.B., M.D. Harvard University Medical School 1916. First Assistant Physician, Robert Breck Brigham Hospital and the Palmer Memorial Hospital. Address: 205 Beacon Street, Boston, Mass. Their subject is: "The Preparation of a Vitamin-Containing Vegetable Extract." Page 135.

LONGACRE, J. J. B.A. Third Year Student at Harvard Medical School. His subject is: "Fistula in Ano." Page 138. Address: Baker Memorial, Massachusetts General Hospital, Boston, Mass.

FULTON, JOHN F. B.S., B.A., M.A., Ph.D., M.D. Harvard 1927. Junior Associate, Neurological Surgery, Peter Bent Brigham Hospital, Boston, 1928. Fellow, Magdalen College, Oxford 1928-1930. Sterling Professor of Physiology, Yale University 1930-. His subject is: "Early Medical Humanists: Leonicenus, Linacre and Sir Thomas Elyot." Page 141. Address: Yale Medical School, New Haven, Connecticut.

ROBBINS, SAMUEL D. A.M. Principal, Robbins School for Stammerers, 1913-1916; Director Boston Stammerers' Institute, 1916-; Speech Clinic, Massachusetts General Hospital, 1919-; Habit Clinics, Massachusetts Division of Mental Hygiene, 1927-; Secretary, American Society for the Study of Disorders of Speech, 1931-. His subject is: "Breath Control in Stammering." Page 146. Address: 419 Boylston Street, Boston, Mass.

RUSHMORE, STEPHEN. A.B., M.D. Johns Hopkins 1902. F.A.C.S. His subject is: "Endometriosis of the Cervix (Case Report)." Page 149. Address: 520 Commonwealth Avenue, Boston, Mass.

REID, WILLIAM D. A.B., M.D. Harvard 1909. F.A.C.P. Assistant Professor of Cardiology, Boston University School of Medicine. Visiting physician to the Massachusetts Memorial Hospitals. Cardiac consultant to the Newton and Waltham Hospitals. His subject is: "Congenital Dextrocardia: An Apparently Unique Case." Page 151. Address: 510 Commonwealth Avenue, Boston, Mass.

BOSTON HEALTH LEAGUE INDEX OF HOSPITAL FACILITIES

UNTIL the present time there has not been available in Boston a central index of hospital facilities. Since January 1, 1931 the Boston Health League has undertaken to make this survey. It was decided to include Cambridge and Brookline in the study because it was felt that the citizens of Boston use the hospitals in these communities to a large extent. These tables* are the first to be completed, and include only the general hospitals. Institutions having twelve beds or over have been included, and the list is thought to be complete.

It is hoped that the table for special hospitals will be available within a few weeks, and data regarding institutions for the physically handicapped and the aged are also being compiled.

A permanent card index containing this information is to be kept by the Boston Health League, and persons desiring to utilize it will be welcome at the office of the League, Room 910, 43 Tremont Street.

*See Pages 160 and 161.

GENERAL HOSPITALS IN BOSTON, 1931

Name of Hospital	Beds	Services										Fees Daily	Support	Out-Patient	Social Service
		Surgical	Medical	Obstetrical	Pediatrics	Acute Com.	Cancer	Mental	Tuberculosis	Venereal	Chronic				
Bay State	28	•	•	•			•		•			$5—$8	Association		
Beth Israel*†	190	•	•		•		•					Free—$15	Association	•	•
Boston City*†	1673	•	•	•	•	•	•	•	•			Free—$7	Taxes	•	•
Carney*†	250	•	•	•	•		•					Free—$7	Church	•	•
Codman Square	20	•	•	•								$4—$6	Association		
Commonwealth Ave.	65	•	•	•	•		•			•	•	$3.50—$7	Fees	•	
Dorchester Cottage	12	•	•	•			•				•	$4.25—$7.80	Association		
Dudley	16	•	•	•			•				•	$3.50—$6.00	Fees		
East Boston Relief Sta.	12	Any Emergency										Free	Taxes		
Eliot	29	•	•				•				•	$4—$12	Fees		
Elm Hill	34	•	•				•					Information not given	Fees		
Emerson	60	•	•	•	•	•	•		•	•	•	$4—$8	Fees		
Faulkner	150	•	•	•			•					Free—$15	Association		
Fenway	40	•	•	•			•				•	$4—$11	Fees		
Forest Hills	150	•	•	•	•		•				•	$3.50—$12	Association		
Harley*	60	•	•				•		•			$3.25—$8	Association		
Hart	85	•	•	•			•			•	•	$4 and up	Association		
Haymarket Relief	32	Any Emergency										Free	Taxes		
MacLeod	25	•	•	•			•			•	•	$4—$6.50	Association		
Massachusetts General*†	681	•	•	•	•		•		•	•		Free—$18	Association	•	•
Massachusetts Memorial*†	621	•	•	•	•	•	•		•			Free—$10	Association	•	•
Massachusetts Osteopathic	48	•	•	•			•				•	Free—$12	Association	•	•
Massachusetts Women's*	81	•	•	•			•					Free—$4	Association		
Medical Mission	12	•	•		•						•	Free—$3	Association	•	
New England Baptist*	150	•	•	•			•	•	•	•		Free—$15	Association		
New England Deaconess*†	185	•	•		•							$2.50—$15	Church		
N. E. Hospital for Women & Children*†	240	•	•	•	•							Free—$9.75	Association	•	•
Peter Bent Brigham*†	246	•	•						•	•		Free—$10.75	Association	•	•
Riley	16	•	•								•	$2.25—$6.50	Fees		
Riverbank	38	•	•	•							•	$4—$10	Fees		
Roxbury	78	•	•	•	•		•				•	Free—$4	Church	•	
St. Elizabeth's*†	300	•	•	•	•					•		Free—$9	Church	•	
St. Margarets*	85	•	•	•	•							$4	Church		
Strong	34	•	•	•			•					$3.75—$5	Fees		
Vincent Memorial	22	•					•					Free—$8	Association		
Total	5768	33	32	24	14	3	24	2	8	8	14			12	8

A. P. H. A. Norm for Acute Service 5:1,000 Population.
Boston Provides for Acute Service 7:1,000 Population.
*Approved by the American College of Surgeons.
†Approved by the American Medical Association for internship or residency.

GENERAL HOSPITALS IN BROOKLINE, 1931

Hospital	Beds	Services: Surgical	Medical	Obstetrical	Pediatrics	Acute Com.	Cancer	Mental	Tuberculosis	Venereal	Chronic	Fees Daily	Support	Out-Patient	Social Service
Board of Health	55	TB	*		*	*			*		TB	Free—$6	Taxes		
Bosworth	18	*	*				*	*	*		*	$3.50—$9	Association		
Brookline General	35	*	*	*	*		*				*	$3—$6	Association		
Brooks*	42	*	*				*					$3.50—$7	Association		
Corey Hill	50	*	*		*						*	$6—$18	Fees		
Free Hospital for Women*	98	*					*				*	Free—$10	Association		
Trumbull	24	*	*				*				*	$4.50—$10	Association		
Total	322	7	6	1	3	1	5	1	2		6				

A. P. H. A. Norm for Acute Service 5:1,000 Population.
Brookline Provides 6+:1,000 Population.
*Approved by the American College of Surgeons.

GENERAL HOSPITALS IN CAMBRIDGE, 1931

Hospital	Beds	Services: Medical	Surgical	Obstetrical	Pediatrics	Acute Com.	Cancer	Mental	Tuberculosis	Venereal	Chronic	Fees Daily	Support	Out-Patient	Social Service
Cambridge*†	255	*	*	*	*		*					Free—$12	Association	*	*
Cambridge City*	200	*	*	*	*		*			*		Free—$7.50	Taxes	*	*
Cambridge Relief	40	*	*	*	*						*	$3—$5	Association	*	
Charlesgate	97	*	*	*			*					Information not given	Association		
Chester	70	*	*	*			*				*	$4.50—$9	Association	*	
Middlesex	119	*	*	*	*		*			*		$3—$6	Fees		
Total	781	6	6	6	4		5			2	2			4	2

A. P. H. A. Norm for Acute Service 5:1,000 Population.
Cambridge Provides 6+:1,000 Population.
*Approved by the American College of Surgeons.
†Approved for internship or residency by the American Medical Association.

MISCELLANY

A BROADCASTING MESSAGE PREPARED AND SPONSORED BY THE COMMITTEE ON PUBLIC EDUCATION OF THE MASSACHUSETTS MEDICAL SOCIETY FOR THE DEPARTMENT OF PUBLIC HEALTH

Infantile Paralysis*

Infantile Paralysis is an infectious disease which affects that portion of the spinal cord containing the motor nerves or those nerves which transmit impulses from the brain to the muscles making them contract and thus producing movements.

In this disease there is an inflammation in different motor centers of the cord which injures or destroys these centers, thus preventing impulses from being transmitted to the different muscles supplied by that nerve center. Those muscles affected may be weakened or completely paralyzed, depending on the amount of injury to the nerve centers in the spinal cord.

How this disease is transmitted is not known. Many theories as to its transmission have been suggested such as insects and animals, but no common carrier has as yet been discovered. It has been shown that it may be transmitted by milk. This does not mean, however, that the infection is always carried by milk.

The disease is most common in children under twelve, but persons of all ages may be affected. The majority of cases occur in late summer or early fall, generally from August to November, but cases occur throughout the year.

The symptoms at the onset may vary a great deal. At the beginning the child perhaps may not be so active or want to play with the other children. He may complain of a sore throat, a mild digestive upset, or pain in the abdomen, legs or arms. He is very sure to have a slight rise of temperature, complain of headache, and will be found unwilling to bend forward putting his head between his knees on account of stiffness of the neck and back. It is on account of this variation of the initial symptoms that it is most important for parents whose child shows any of these symptoms with stiffness of the neck or back, to consult their family physician.

The paralysis or weakness takes place generally in about twenty-four to thirty-six hours after the first symptoms are noticed. At this time, or as early as the initial symptoms are seen, pain with varying severity is usually present in the arms or legs and sometimes in both.

We see a great deal in the papers about the use of convalescent serum in the treatment of Infantile Paralysis. This means the injection of blood serum, obtained from persons having had the disease, into a patient coming down with Infantile Paralysis before the paralysis occurs. That is, the diagnosis of the disease in some cases may be made before paralysis occurs and this is the only time when convalescent serum is likely to be of value. More investigation needs to be made before we can say that it is an important factor in lessening the amount of paralysis.

The cause of death in this disease is due, in the great majority of cases, to paralysis of the muscles of respiration. Many lives have been saved in the last few years by the use of the Drinker respirator, a machine devised to keep up artificial respiration indefinitely. Some cases have been kept alive three weeks by the use of this machine before they were able to breathe properly without it.

The treatment after the acute stage is of extreme importance, and has two objects: first, to prevent the development of the deformities which are liable to occur; and second, to bring back power to the paralyzed and weakened muscles.

Most of the deformities may be prevented if the cases come under treatment soon after the onset. The many severe deformities that occur in untreated cases are due to the contraction of the unparalyzed muscles when unopposed by the weakened ones.

The patients should be compelled to remain recumbent or flat in bed to prevent deformities at the hips and of the body, until the muscles are strong enough to hold the body in its normal positions, or be held in such position by corset or brace. Likewise the legs should be held in their normal positions by light splints to prevent deformity.

After the acute symptoms are over, a complete examination of all the muscles of the body can be made, and their condition may be determined.

The bringing back of power to muscles weakened by this disease is a long tedious process. In the case of certain muscles where the nerves have been completely destroyed, no power can ever be regained. A great deal of improvement can be made, however, in weakened muscles where the nerve supply is only partially destroyed, and many muscles make a complete recovery of muscle power.

A long period of massage and muscle training, scientifically supervised and carefully carried out with the full coöperation of the parents and patient, is necessary to accomplish the improvement.

The object of the muscle training is to make the weakened muscles perform their normal function, thus increasing their power. Only a slight contraction of a weakened muscle may be felt at the beginning, but by constant repetition of this movement, the muscles will gradually become stronger, if not allowed to overdo. It is only by this repeated work that the weakened muscles will regain their strength.

An adjunct to muscle reëducation, which is usually given on an examining table, is under water treatment. Under water treatment has become a very pleasant way of having exercises. The buoyancy of the water allows the patients to carry out movements which it would be impossible for them to do outside. In this treatment very carefully supervised exercises must be given, and it must be borne in mind that this treatment is not merely putting the patient in the water simply to swim and splash

*Broadcast June 24, 1931, Station WBZA.

around. The patients are carefully watched so that they will not use the stronger muscles and increase any deformity already present.

It is often asked, "Why not let the child walk and run as much as possible, to exercise the muscles, and so increase their strength?" It is because, if this is done, they will use the weakened muscles too much and by this will become overtired and lose strength. The muscles must be watched very carefully for any sign of fatigue, and the exercises governed accordingly.

The treatment, therefore, of these cases is very long and tedious. It must be carried out under careful supervision, and the weakened muscles strengthened by special exercises, to guard against beginning deformities. Parents should see to it that in the early stages their children receive proper attention, and are not neglected until deformity occurs. It is much easier to prevent early deformity than to cure it later.

We see many cases with terrible deformities,—the legs drawn up to the body, with bad curves of the spine, and some even crawling about on all fours, due really to neglect; the parents believing that nothing can be done for the victims. But cases paralyzed even for many years can be greatly benefited by proper treatment. The idea that nothing can be done for cripples of long standing is very wrong.

In about a year after the attack, we can determine what muscles will remain completely paralyzed and how much we can expect from the weakened ones. It is at this time that the operative treatment may be started to further benefit the patient.

As the treatment for this disease is such a slow one, parents are apt to get discouraged. They will be advised to do this and that; they will receive pamphlets from charlatans promising cures. There is no quick cure and no honest physician can or will promise one.

The economic question of looking after thousands of cripples is a great one. Children paralyzed or semi-paralyzed are an added problem in the home and in the community at large. In the home special attention must be paid to them; special chairs and apparatus made and kept in constant repair; special exercises given regularly, and the utmost patience and perseverance shown.

From the experience in treating and following up over thirty-five hundred cases of Infantile Paralysis, the following statements may be made:

1. Most of the deformities can be prevented with proper treatment.
2. Practically every case can be made to walk, although some will require braces and crutches.
3. With proper treatment and suitable vocational training, no victim of Infantile Paralysis should become a public charge.

HOSPITAL BENEFICIARY UNDER DR. POLAK'S WILL

Long Island College Hospital received $125,000 outright and a contingent bequest of $100,000 under the will of Dr. John Osborn Polak who died on June 29. A legacy of $5,000 was also provided for the general fund of the Kings County Medical Society, which inherited his library.

CONTROL OF SPECIALISTS IN BELGIUM

As a supplement to the resolution passed by the Congress of Occupational Medicine, the Fédération Médicale Belge commissioned Professor Coppez to prepare a plan for the regulation and control of the title of specialist in the various branches of medicine, according to the Belgian correspondent of *The Journal of the American Medical Association.*

"DISEASED" BUILDINGS

The National Committee for Mental Hygiene is responsible for the following:

"Several articles have appeared recently in medical journals calling attention to inaccuracies often noted in scientific terminology, or nomenclature, not only in secular periodicals and newspapers but in technical bulletins as well.

"A well-known tuberculosis laboratory has issued a circular announcing that a 'Tubercular Building' for children was to be erected. This is a misnomer commonly used even among medical workers. Those who know have repeatedly pointed out that a diseased organ may be 'tubercular', but the patient is 'tuberculous'. It is to be hoped that the building in question will not suffer from this type of organic condition, at any rate not for some years to come.

"In the field of mental hygiene it has been necessary to explain to the uninitiated the difference between 'mental defect' and 'mental disease'. But we too have been careless with our psychiatric vocabulary. Why the 'Psychopathic Hospital'? There may be 'psychopathic social workers' but state hospitals and mental hygiene clinics try as far as possible to employ safe and sane 'psychiatric' social workers. Facetiously, and for the sake of brevity, professional workers have referred to students of mental deficiency as the 'feebleminded group'.

"'Insane' is a good old-fashioned word, try as we might to discard it as a medical term, but why announce, as does a current bulletin that the foundations have been completed for two 'disturbed buildings' and two 'epileptic buildings' for the blank 'insane hospital'? Have you ever seen a 'nervous hospital'? But even the purist is stumped at 'mental institutions', the phrase has come into such general use. The technologists have given us the televox, the electric man and the robot, but it takes a psychiatrist to endow a hospital for the insane with mind."

YELLOW FEVER IN LONDON

Three cases of yellow fever, contracted in the course of laboratory work, have been reported from London.

NEW SMALLPOX SERUM

A new smallpox serum has been announced by the British Medical Research Council in reporting the researches of Professor William John Tulloch and Dr. James Craigie. The serum gives a "flocculation reaction" in cases of smallpox which enables a definite diagnosis in the early stages of suspected smallpox when the symptoms are otherwise doubtful. The experiments also indicated that the serum might give immediate protection to persons in contact with smallpox cases, acting more quickly than the present vaccination method.

FALL RIVER GENERAL HOSPITAL MAY BE CLOSED

Possible permanent or temporary closing of the Fall River General Hospital is threatened as a result of this city's financial embarrassment. The hospital is now costing the taxpayers a half million dollars a year, which the Board of Finance considers an impossible burden to bear. A final decision will depend on the report of a special investigating committee consisting of Dr. Frederic A. Washburn, director of the Massachusetts General Hospital, Dr. Haven Emerson, professor of public health at Columbia University Medical School, and Dr. D. L. Richardson, superintendent of the Providence City Hospital.

TURKEY'S FIRST HEALTH STATUTE

The first general public health law of Turkey (according to the United States Daily) sets up progressive measures for child-health and social welfare, it was announced orally July 6 at the Children's Bureau of the Department of Labor. Medical service has been introduced in the public schools, child health centers provided for, and pecuniary aid to mothers prescribed. Additional information was made available as follows:

The health law contains a chapter on child-health and authorizes the Ministry of Health and Social Welfare to "take all measures" necessary for the promotion of child hygiene.

The law calls for the establishment of child health centers in cities with a population of more than 10,000, periodic physical examinations and mental tests of school children, and courses in child-hygiene for girls in secondary schools.

The law prescribes protection by the State of children mistreated by their parents or guardians and pecuniary aid to mothers having at least six living children.

The chapter on industrial hygiene prohibits the employment of children less than 12 years of age; night work for persons less than 16, and the employment of expectant mothers on harmful work for three months prior to confinement; employment on ordinary work is prohibited for three weeks before and three weeks after confinement. It is further prescribed that persons less than 16 years of age may not work more than eight hours per day.

The law provided for the enactment of a labor code which will contain additional measures for the protection of workers.

A recent ministerial decree provides, evidently for the first time, medical service in secondary schools. These are attended mostly by children between 13 and 16 years of age. Each pupil must be examined at the beginning of the school year and at least once during the year.

CHANGES IN ILLINOIS' PUBLIC HEALTH LAWS

New health legislation enacted by the recently adjourned Legislature of Illinois has been outlined recently in the *United States Daily*. Under the new laws it becomes the duty of the Department of Public Health to act in a supervisory rather than in an advisory capacity concerning the public water supplies in the State, including supervision over the construction and operation of swimming pools.

Qualification standards for public health measures have been established and the coroner's law has been amended to make it mandatory upon that official to take charge of the body, make inquiry into the circumstances and execute a death certificate in all cases where death occurs without medical attendants. It is expected that this amendment will have the effect of reducing the number of death certificates with "unknown" given as the cause.

ONE YEAR'S INDEX OF RED CROSS SERVICE

(A few significant facts chosen from many)

Disasters: 22 States involved in drought relief—greatest peace-time task; 611,000 families (estimated 2,750,000 persons) assisted, 608,000 collections garden seed distributed. Sufferers from 61 other disasters aided in 31 States.

Soldiers, Sailors and Veterans: 378,130 social and financial problems of service and ex-service men or their families, dealt with by approximately 3,000 Chapters.

Life Saving: 60,473 candidates passed tests, authorized to wear insignia; 1,186 Chapters gave instruction.

First Aid: 72,994 certificates awarded; 648 Chapters gave instruction.

Juniors: 7,133,587 American school children enrolled; 54,000 Christmas boxes sent to children of other lands; international understanding and good will fostered; cheer carried to unfortunate children and disabled veterans.

Nursing: Approximately 50,000 names and records on file; approximately 25,000 qualified nurses available for active duty in war, disaster, epidemics or other emergencies.

Public Health Nursing: 831 nurses made 1,342,145 visits to patients; 21,798 schools visited; examinations of 1,140,461 children disclosed defects in 616,662 children; 359,413 baby-welfare visits.

Home Hygiene and Care of Sick: 568 Chapters conducting work; 34,118 certificates issued; 73

nurses attended teacher training course for home hygiene instructors.

Nutrition: 127,180 children and 10,649 adults received instruction.

Foreign and Insular: Supervised disaster relief in San Domingo and Nicaragua. Appropriated $392,035.95 for 12 Insular and Foreign disasters. Directed Chapter activities in the Philippine Islands, Porto Rico, Virgin Islands, Canal Zone, Hawaii, Haiti, Guam, Samoa. Extended service to army and navy abroad, and conducted international inquiry service.

Volunteers: 110,710 persons engaged in volunteer service; 202,763 garments, 3,520,232 surgical dressings made; 221,847 pages of Braille prepared for finger-reading by blind; 46,330 persons served in canteens; 33,493 motor corps calls.

NEW LOW RECORD FOR TUBERCULOSIS

The United States had the lowest pulmonary tuberculosis death rate last year on record since data were first compiled systematically, beginning in 1910, Dr. Frederick L. Hoffman, consulting statistician, writes in a report published in the current issue of *The Spectator*, business insurance paper. In 1910 the death rate for fifty-nine American cities was 174.4 per 100,000 of population, which by 1920 had been reduced to 108.5 and by 1930 to 66.5.

Dr. Hoffman gives the 1929 and 1930 records of 147 American cities, having an aggregate population last year of 39,345,739. In this group, representing, he writes, "a complete picture of our American urban mortality," the rate declined from 67 per 100,000 in 1929 to 63.8 in 1930. The rate increased in fifty-four cities and decreased in ninety-three.

New York City was second lowest in death rate among the five largest cities in the country in 1929 and 1930, and in 1930 was second lowest among six world cities, being bested in each case by Chicago.

The figures for the five largest cities follow:

	Rate Per 100,000	
	1929	1930
Chicago	65.1	56.9
Detroit	73.3	68.5
Los Angeles	97.5	104.2
New York	65.7	63.7
Philadelphia	74.8	71.4

Dr. Hoffman presents a table of seventeen cities, nearly all in the South, with the highest rates for 1930, headed by El Paso (Texas) with a rate of 264.3. He explains that these rates "are due on the one hand to the Negro population in Southern cities, and on the other to localities utilized for curative purposes by non-residents".

"This, of course," he continues, "is not the whole explanation, but it explains the major reasons for an excess in the rate which would otherwise be disconcerting. The Negro, unfortunately, continues to show nearly twice the tuberculosis death rate of the whites in large sections of the country, and the outlook for a decided decline in the Negro rate is at the present time not particularly encouraging."

His tables for six world cities follow:

	Death Rate Per 100,000	
	1910	1929
New York City	181.6	65.7
Paris	353.0	236.0
London	165.0	103.0
Chicago	153.3	65.1
Berlin	209.0	115.0
Hamburg	124.0	78.0

—*The New York Times.*

BERLIN'S NEW INSTITUTE

Berlin's new institute for the history of medicine and the natural sciences has a suite of 25 rooms in a former bank building. The chief equipment consists of the library treasures, many of which are preserved in a special depository left by the bank. At present the library comprises 10,000 volumes in addition to a special pharmaceutic collection of 2,000 pieces. The institute is under the supervision of Professor Dr. Paul Diepgen, the medical historian who was called from Freiburg to Berlin about a year ago.

NEW KINGS COUNTY HOSPITAL

Mayor Walker recently commemorated the 100th anniversary of the dedication of the first Kings County Hospital by laying the cornerstone of the new hospital to be built at an estimated cost of over five million dollars. This institution, when opened, will rival the Bellevue with 1500 beds.

PLEA FOR CLEANER STREETS

A committee of twenty on street and outdoor cleanliness of the New York Academy of Medicine has censored what it terms the neglected condition of New York streets and has urged the Department of Sanitation to issue strict orders that garbage cans be covered and to provide an appropriate number of enclosed trucks for garbage removal. The committee also favors the creation of a special sanitary squad or police force to prevent littering of the streets.

CHILD GUIDANCE COMMITTEE OF BROOKLINE

Plans are under way for the establishment of a Child Guidance Clinic in Brookline. The impetus for this movement was received when a number of interested people met and expressed their approval of the idea. Subsequently a committee was appointed which is now working on details.

FIGHTING PLAGUE IN PERU

The Pan American Sanitary Bureau has declared war on the rats of Ecuador and Peru and has placed Drs. John D. Long and C. R. Eskey of the United States Public Health Service in charge of the cam-

paign. A successful warfare has already been waged in Ecuador where but one case of plague has been reported since March, 1930, and Drs. Long and Eskey have removed their base of operations from Guayaquil to Lima.

CORRESPONDENCE

CONCERNING STATE MEDICINE

Editor of the *New England Journal of Medicine*,
Dear Sir,

It seems that no matter what medical journal is read or what place is visited there is always found a dread of the medical bogy man, State Medicine. I have heard and read the claims of prominent medical men that state medicine was inevitable. Of course, the dread is really the fear of the political exploitation of medicine. The reason that medical men stick to this field of long hours and big responsibilities is because it is the only profession of the free and independent responsibility of the individual. Take away this independence and there is left only a laborer who caters to the public will or more likely to the political powers who control his appointment.

How successful has the state been in the past where it has dealt in medical affairs? The best examples are the various clinics, namely:

T. B., Cancer, G. U.

T. B. clinics have been successful on account of three factors: handiness, slow nature of the disease, and a strict ethical code. They have been a great aid to physicians and have received the coöperation of most of the doctors.

The cancer clinic, I think, is a farce, a waste of funds, and in some cases a menace. I am speaking from my own experience. Cancer is a disease which must be treated without delay. All medical authorities agree that delay is the dangerous element in the treatment. Yet the patient often has to wait a month for a diagnosis. After the diagnosis is made there is a wait of from one to three months before there is room at the cancer hospital. At present it is too expensive to build enough hospitals to take care of all the sufferers. And by the way, there is a wait of two to six weeks before admittance to the county T. B. Hospital, a million and a half dollar institution.

The G. U. clinic is purely a charity affair and only the penniless attend, as these patients prefer privacy if they can possibly scrape up the needed funds.

This short survey shows that to be successful the state needs funds of many millions to establish proper facilities to take care of the sick, it needs the coöperation of the physicians, and lastly, it needs prompt action. The money can be raised by putting a portion of the cost on the cities and towns, as in T. B. Hospitals and G. U. Clinics. The coöperation of the physicians can be obtained by aiding them in their diagnoses as in the T. B. Clinics, but not in supplanting them as in the cancer clinics. In other words if the state wishes to establish a clinic let it do so in an ethical manner and only attend to referred patients and only in an advisory capacity.

Lastly it is up to the doctors themselves to improve their technique, for as I see it, it is just as bad to have our patients go to the irregular practitioners as it would be to go to the state clinic. Speaking of irregulars, while I was visiting in Rochester, Minn., I did not see the office sign of an M.D., except those connected with the Mayo Clinic. But there was a chiropractor doing business on the main street. So even in this centre of medical skill there is room for the unscientific. The medical profession can accomplish its will if it is in the right. Witness the legislation for free choice of physician in the compensation law. Do not think for a minute that state medicine is impossible; the present depression is the psychological moment, just as the war was for prohibition. There is a missing link in the profession which in lay parlance is known as the country grocery store, the nucleus of politics. The local medical club is the country store of medicine, and if used to discuss these political problems the results would be of tremendous value to the state association. Whenever a medical meeting is held it starts: "I have a patient who came to me complaining, etc." It's about time to wake up and be "modern," forget the patient for a moment, show the politicians our strength before they start to meddle in *our field* of medicine.

PAUL NETTLE, M.D.

RECENT DEATHS

GREENE—Worcester has lost a prominent physician in the person of RAY WOODVILLE GREENE, who died of heart disease, July 6, 1931, at the age of 73. He had been in poor health for a number of years and a year ago was desperately ill from a heart attack.

The son of Abner and Maria Arnold Greene, he was born in Yarmouth, Maine, July 29, 1857. Much of his boyhood was passed in Westerly, Rhode Island. He was graduated from Worcester Academy in 1879, from Brown University in 1883 and from Harvard Medical School in 1886. After serving as house officer at the Boston Lying-In Hospital he settled in practice in Worcester and joined the State medical society in 1887. Dr. Greene was a general practitioner although in later years he gave more time to diseases of the heart and lungs. His religious and philanthropic activities were broad. For many years he was an active member of the board of directors of the Young Men's Christian Association; he served the First Baptist Church as deacon and as a member of its building committee and was president of the Massachusetts Baptist Convention for two years. He was held in high esteem by his fellow practitioners and was a member of many social clubs, notably the Apostles dining club, the Shakespeare club, the Worcester Economic club and

the Worcester Country club. Kindly in his judgments he was broad in his sympathies and generous in his deeds. Dr. Greene served on the staff of the Worcester City Hospital from 1888, was its superintendent in 1902 and had been a member of the board of trustees since 1927. He was a member of the staff of the Memorial Hospital from 1891 to 1906 and on the consulting staff until his death. For many years he was a councilor of the Massachusetts Medical Society.

In 1892 Dr. Greene married Mila Whitney of Worcester. She died in 1902 leaving three children. In 1925 he married Alma Melvin of Worcester, who survives him.

NEWHALL—Dr. Lawrence Thompson Newhall, the only physician of Brookfield, died in that town, July 9, 1931, aged 74 years.

He was born on the island of Jamaica, his father, The Rev. Henry D. Newhall, being a missionary there from Marblehead. He was graduated from the University of Vermont College of Medicine in 1881 and settled in practice in Brookfield in 1886, joining the Massachusetts Medical Society in that year. His name was placed on the retired list last February. Dr. Newhall was a member of the Brookfield Medical Club, a Past Master of the Agden Lodge, A. F. & A. M., Past Master of Austin Turnstall Post, American Legion, having been examining physician at Westfield and Camp Devens during the World War. He was a Fellow of the American Medical Association.

SWEENEY—Dr. Michael Thomas Sweeney of Atlantic, died suddenly of heart disease while visiting a patient in Quincy, July 5, 1931, aged 50.

Born in North Weymouth in August, 1880, Dr. Sweeney attended the schools of that town, Boston College High School and Boston College where he received an A.B in 1906. Three years later he was graduated from Georgetown (D. C.) University School of Medicine. For a short time he practised in South Boston, settled in Norfolk Downs in 1911 and joined the Massachusetts Medical Society. In 1917 he moved to Atlantic and had practiced there since.

Dr. Sweeney was a member of the North Quincy Council, Knights of Columbus, Quincy Lodge of Elks, and of St. Kevins Court, Foresters of America.

He was married to Miss Harriet See in 1919. She died two years ago.

NEWS ITEMS

FOOT AND MOUTH DISEASE IN ENGLAND—It is reported that England is experiencing a serious outbreak of foot and mouth disease and accordingly the Department of Agriculture has notified its inspectors at the principal Atlantic, Gulf and Pacific ports to use the utmost vigilance in guarding against the possible introduction of this dreaded livestock malady.

DR. KLINE HONORED—Dr. George M. Kline, commissioner of the Department of Mental Diseases of the Commonwealth of Massachusetts, was awarded the master of arts degree at the University of Michigan Commencement exercises on June 22.

ROCKEFELLER INSTITUTE SCIENTIFIC STAFF—The Board of Scientific Directors of The Rockefeller Institute for Medical Research announces the following appointments and promotions on the Scientific Staff:

New appointments:

Associate, Dr. Irvine Heinly Page.

Assistants, Dr. Newell M. Bigelow, Dr. Albert Claude, Dr. J. Theodore Geiger, Dr. Harry S. N. Greene, Mr. Stanton A. Harris, Dr. John L. Jacobs, Dr. Esben Kirk, Dr. Douglas A. MacFadyen, Dr. David K. Miller, Dr. Ronald S. Saddington, Mr. Henry W. Scherp, Dr. Francis F. Schwentker, Dr. Wendell M. Stanley, Dr. Edward E. Terrell.

Fellows, Mr. James H. Jensen, Mr. C. William Lacaillade, Jr., Mr. Ralph G. Schott, Mr. Lester W. Strock, Mr. John E. Stumberg, Dr. Peter S. Yang.

Promotions:

Associate to *Associate Member*, Dr. Oskar Seifried.

Assistant to *Associate*, Dr. George P. Berry, Dr. Elmer E. Fleck, Dr. Thomas Francis, Jr., Dr. Raymond C. Parker, Dr. Robert E. Steiger.

DR. W. B. CANNON HONORED—Dr. W. B. Cannon, Professor of Physiology at the Harvard Medical School, and Dr. Henry Fairfield Osborn, Director of the American Museum of Natural History in New York, have received degrees, honoris causa, from the University of Paris.

THE BAS-RELIEF OF GENERAL LEONARD WOOD—The bas-relief of General Leonard Wood has been unveiled at the Boston City Hospital by the Spanish War Veterans in memory of the local association with his fame in the United States Army. The sculptor is Bruce Wilder Saville of Boston.

NEW INSTITUTE IN ENGLAND—Downe House, in Kent, once the residence of Charles Darwin, will probably be the site of a new institute for surgical research for Great Britain. This estate was purchased by Surgeon G. Buckstone Browne and handed over to the British association with the intention that Darwin's home be preserved as a permanent memorial and museum.

DR. EUGENE L. FISK—Dr. Eugene L. Fisk of New York, founder of the Life Extension Institute, died suddenly in Dresden, Germany, at the age of 64. Dr. Fisk had gone to Europe to visit his daughter, Mme. Jean A. Toulemonde of Paris. He had been spending the summer on the Brittany Coast and had gone to Dresden to visit the Museum of Hygiene.

DR. FREDERIC J. COTTON RESIGNS—Dr. Frederic J. Cotton has resigned his position as Senior Surgeon-in-chief of the Boston City Hospital, as of July 1. His resignation, after twenty-nine years of active service, is due to the pressure of other activities. Dr. David D. Scannell of 489 Walnut Avenue, Jamaica Plain, has been appointed by the board of trustees to replace Dr. Cotton.

APPOINTMENT OF DR. SCANNELL—Dr. David D. Scannell, who has been appointed by the board of trustees chairman of the surgical staff and senior surgeon-in-chief of the Boston City Hospital, to succeed Dr. Frederic J. Cotton, has long occupied a prominent position in surgery.

Born in the North End in 1874, he attended the Eliot School and the Public Latin School before entering Harvard, where he was a star athlete in football and baseball.

Following his graduation from Harvard Medical School in 1900, Dr. Scannell joined the faculty as instructor in anatomy and assistant in surgery. Later he was appointed assistant professor of clinical surgery at Tufts Medical School and lecturer in surgery at Harvard.

He gained wide prominence in public life here during his twelve years of service on the school committee between 1908 and 1925, not including the war years. For the past six years he has devoted himself entirely to his profession.

NOTICES

NEW ENGLAND SANITARIUM

The New England Sanitarium and Hospital announces the appointment to its staff of Dr. Harold Mikkelson formerly of the Washington Sanitarium, Takoma Park, Washington, D. C., a sister institution.

REMOVAL

Dr. Walter S. Levenson announces the removal of his office from 68 Bay State Road to the Pasteur Building, 371 Commonwealth Avenue, Boston.

SOCIETY MEETINGS
CONGRESSES AND CONFERENCES

July 26-31—Third Congress of the Pan American Medical Association. See page 632, issue of March 19.

July 27—The Post Graduate Course of Ear, Nose and Throat Surgery at the University of Bordeaux, France. See page 951, issue of April 30.

July 27-31—Third International Congress of Radiology, Paris. See page 789, issue of April 9.

August 3-8—The International Congress of Industrial Accidents and Diseases. See page 1330, issue of June 18.

Aug. 31 - Sept. 4—Neurologists will meet in Berne, Switzerland. See page 896, issue of April 23.

September 14-17—The American Public Health Association. See page 632, issue of March 19.

October 12-16—An Announcement of the Clinical Congress of the American College of Surgeons. See page 1175, issue of May 28.

October 19-22—The Interstate Post Graduate Medical Association of North America. See page 1125, issue of May 21.

October 19-30—Graduate Fortnight of the New York Academy of Medicine. See page 1230, issue of June 4.

April 4-8, 1932—The American College of Physicians. See notice on page 1232, issue of June 4.

DISTRICT MEDICAL SOCIETIES

Bristol North District Medical Society

September 17—Details to be announced.

Plymouth District Medical Society

July 17—Midsummer meeting. See page 1011, issue of May 7.

BOOK REVIEW

Annual Reprint of the Reports of the Council on Pharmacy and Chemistry of the American Medical Association for 1930. Cloth. Price, $1.00. Pp. 91. Chicago: American Medical Association, 1931.

This book is essentially a record of the negative actions of that distinguished body, the Council on Pharmacy and Chemistry of the American Medical Association; that is, it sets forth the findings concerning medicinal preparations which the Council has voted to be unacceptable for recognition and use by the medical profession. Many of the reports record outright rejection or the rescinding of previous acceptances; others report in a preliminary way on products which appear to have promise but are not yet sufficiently tested or controlled to be ready for general use by the profession.

Among the reports recording outright rejection are those on: Avesan (H), formerly Nuforal, a mixture stated to be composed of formic acid, sodium nucleinate, camphor, allyl sulphide and chlorophyll, with traces of salicin and sulphuric ether, marketed with unwarranted claims of usefulness in the treatment of tuberculosis, asthma, and other respiratory diseases; Ceanothyn, once before rejected and still found to be marketed with unsupported therapeutic claims; Collosol Calcium and Collosol Kaolin, so-called colloidal preparations, the former an unscientific mixture of unproved value, the latter a possibly dangerous preparation, and both marketed with unwarranted claims; Ephedrol with Ethylmorphine Hydrochloride, an unscientific ephedrine preparation marketed under an unacceptable proprietary name with unwarranted therapeutic claims; Farastan, an unscientific iodine-cinchophen preparation proposed for routine use in "arthritis . . . and Rheumatoid conditions"; Haley's M-O Magnesia-Oil, a magnesia magma and liquid petrolatum mixture in fixed proportions marketed with emphasis on the "M-O"; Lydin, a testicular extract, marketed with claims of value in the treatment of impotence; and Metatone, a shot-gun "tonic" mixture marketed under a proprietary name with unwarranted therapeutic claims.